S. HRG. 105–866

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

ON

H.R. 4194/S. 2168

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT, AND FOR SUNDRY INDEPENDENT AGENCIES, BOARDS, COMMISSIONS, CORPORATIONS, AND OFFICES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1999, AND FOR OTHER PURPOSES

Corporation for National and Community Service
Department of Defense—Civil
Department of Housing and Urban Development
Department of the Treasury
Department of Veterans Affairs
Environmental Protection Agency
Executive Office of the President
Federal Emergency Management Agency
National Aeronautics and Space Administration
National Science Foundation
Nondepartmental witnesses

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CONTENTS

THURSDAY, MARCH 5, 1998

	Page
Federal Emergency Management Agency	1
Corporation for National and Community Service	55

THURSDAY, MARCH 12, 1998

Department of Housing and Urban Development	93
Department of the Treasury: Community Development Financial Institutions Fund	155

THURSDAY, MARCH 19, 1998

Department of Veterans Affairs	169
Department of Defense—Civil: Cemeterial Expenses, Army	277

THURSDAY, APRIL 23, 1998

National Aeronautics and Space Administration	287

THURSDAY, APRIL 30, 1998

Environmental Protection Agency	331

THURSDAY, MAY 7, 1998

National Science Foundation	559
Executive Office of the President	589
Nondepartmental witnesses	647
Environmental Protection Agency	647
Department of Housing and Urban Development	746
Department of Veterans Affairs	788

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, APRIL 23, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:38 a.m., in room SD–138, Dirksen Senate Office Building, Christopher S. Bond (chairman) presiding.

Present: Senators Bond and Mikulski.

Also present: Senator Bumpers.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

STATEMENT OF DANIEL S. GOLDIN, ADMINISTRATOR

ACCOMPANIED BY MALCOLM L. PETERSON, COMPTROLLER

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. Good morning. This hearing of the Senate VA, HUD, and Independent Agencies Subcommittee will come to order.

The subcommittee meets today to review the budget request of the National Aeronautics and Space Administration [NASA], and we welcome Dan Goldin, NASA's Administrator, and his staff.

NASA's budget request totals just under $13.5 billion, nearly $200 million less than the fiscal year 1998 enacted level. Once again, NASA is proposing to do more with less and to make its missions smaller, cheaper, and better. We appreciate NASA's willingness to step up to the plate and actually to do more with less, instead of just talking about doing more with less sometime in the future.

Last year at this hearing, I believe we talked about the excitement that NASA was generating—the awe-inspiring visions allowing us to picture the far reaches of the universe, to see the birth of stars and galaxies, and to imagine the possibility of life existing throughout the universe. This past year has continued that excitement—the landing of the Mars Pathfinder on the Fourth of July and the explorations of Sojourner, the little rover that could, which captivated the Nation. I also commend NASA's Associate Administrator for Space Science, Wes Huntress, for a job well done, and wish him well in his new endeavors.

On the other hand, the past year has also done little to alleviate some of the concerns we expressed last year, particularly over the

construction of the International Space Station. The problems we discussed last year, both those with the U.S. contractors and with the commitments from our Russian partners, have continued. The opportunity that we gave NASA and the contractor in last year's conference report to reexamine the funding profile, schedule, content, and efficiency of the program, only has been given lip service and NASA has not used this review effectively in my view. Instead, NASA has only reiterated the need for transfer authority, which was denied last year.

I continue to remain concerned over the exploding cost of the International Space Station in which the overall cost of the program will grow from $17.9 billion to some estimates of $23.3 billion, perhaps even more at completion. I do not think it appropriate to rob other programs and initiatives to pay for the space station and how we balance the space station with space and Earth science programs is of grave concern. Obviously, these are areas which we will wish to explore during this hearing.

We also have questions remaining concerning NASA's use of uncosted carryovers. Last year we were surprised that the shuttle program, which had allegedly been cut to the bone, was able to come up with an excess of $200 million in fiscal year 1997 to be used as part of the shortfall in the space station program. We expressed concern that NASA was using an internal bank of uncosted carryovers to allow the agency to bail out other programs, despite the purposes for which Congress had appropriated the funds.

This year uncosted carryovers seem to be the answer for all of NASA's cost overruns and also a way to start new programs in the existing budget. However, if the funds which were appropriated by Congress have already been obligated for their intended purpose, they cannot be spent again merely because the agency has not yet costed the obligation. Now, this committee needs to understand NASA's use of uncosted carryovers both for NASA's credibility and for us to understand the actual funding costs of the programs.

In addition, this is another difficult year for funding decisions for this subcommittee. The President again has submitted a budget that raises expectations by not structuring spending decisions according to fiscal requirements and program needs. We have significant funding needs that we must address, ranging from medical care for veterans to climbing costs associated with housing for low-income Americans to relief for victims of disasters. We are not far enough along in the budget process to have an allocation for the subcommittee. So, it is premature to discuss absolute levels of funding that might be available to NASA, but we can be sure, as in the past, that the allocation will be tight. Therefore, we need to understand NASA's funding priorities for its programs.

We are living in a rapidly changing world and possibly also in a rapidly changing universe. We count on agencies like NASA to inspire us to explore and understand not only the world, but also the universe. We also count on NASA to use its vision to serve the Nation and to benefit life on Earth.

Let me now call on my distinguished ranking member, the Senator from Maryland, Senator Mikulski, for her opening statement. Senator.

STATEMENT OF BARBARA MIKULSKI

Senator MIKULSKI. Thank you very much, Mr. Chairman, and I want to welcome the Administrator, Dr. Goldin, and look forward to our conversation today.

I also want to note the presence of the new Associate Administrator for Human Exploration and Development in Space, Joe Rothenberg, who was the former Director of Goddard, a Maryland resident. We have a light in the window for you. [Laughter.]

And I also want to extend my greetings to the new Goddard Director, Mr. Al Diaz, and to the new Associate Administrator of Earth Science, Ghassem Asrar. Welcome.

Let me start by saying that it is good to see that the proposed funding level of $13.46 billion in the fall to see—I am pleased to see the amount that finally got into the budget. I was deeply concerned that there would be less money this year, that the promises that had been negotiated would fall short, and that we would again have very stringent funding issues.

I do believe that we have very stringent funding issues because I believe that when one looks at the overall increased funding at various science agencies, that NASA is not moving ahead in the way that others are.

I want to thank Mr. Bond and Mr. Goldin for the work that they did to ensure that the out-year funding for NASA did not dip to a level that would essentially begin to hollow out or downgrade NASA.

NASA has done many wonderful things. Its mission to explore new frontiers with new technologies is essential in our everyday life. NASA has been good for science, good for business, and good even for human health in the protection of our environment. We know that investing in NASA's science and technology has been good for business and that new industries have been built on space exploration, such as personal computers, communication satellites, and weather forecasting. Space exploration has generated more than 30,000 product spinoffs. It has been good for science by providing improved scientific knowledge about other planets and life here on Earth.

I have been really pleased that in the last year there have been incredible discoveries. The landing of the Mars Pathfinder suggests the possibility of hidden subsurface water. The Hubble telescope discovery of 1,000 bright young star clusters, resulting in the collision of two galaxies, and just this week the discovery of the birth of a solar system that suggests that there is even other life to be considering. These outstanding discoveries help us better understand the universe and help us develop predictive environmental, climate, and natural disasters.

Our investment in NASA has been good for human health. It has saved lives with the techniques that we have developed, and what is going on in the work of new x-ray technology and new opportunities on tumor research is outstanding.

Though I am a strong supporter of NASA, let me tell you, though, Mr. Goldin, I have some yellow flashing lights that I would like to discuss.

First, I would like to note my very strong concern about NASA's future role in the Federal Government's overall science, research, and technology efforts. I do not want, as we talk about 21st century research and science funding, that NASA will be left behind.

Second, I am concerned about the funding of the space station and the schedule of its ongoing operation. In particular, I am particularly concerned about the fragile nature of the Russian participation. As I stated at last year's hearing, my concern is more with the Russian financial situation, not with their technical competency. In our conversation, I want to hear more about what is the Russian participation, particularly in the light of the departure of Prime Minister Chernomyrdin.

I also want to know how the Russians are dealing with the impact of the proliferation of missile technology that could lead to the manufacture of the weapons of mass destruction.

Third, I am concerned about—in addition to the missile technology transfer from Iran, closer to home, I want to hear how NASA will be meeting the needs of adequate funding for the Space Telescope Science Institute and what is the status with respect to implementing the WOBS 2000 plan.

Last, but also very important, is my concern about the agency's year 2000 readiness. In a GAO report, I note that NASA itself got a D in terms of being ready to deal with the Y2K problem and I look forward to hearing your comments on that.

As always, I view these conversations as enormously constructive and look forward to hearing your response both here in the hearing and our ongoing work and cooperation.

Senator BOND. Thank you very much, Senator Mikulski.

Now, Mr. Goldin, we will make your full statement—oh, excuse me. Senator Bumpers.

Senator BUMPERS. Mr. Chairman, I am not going to abuse your hospitality——

Senator BOND. We are delighted to have you here.

Senator BUMPERS [continuing]. By taking up the committee's time. I just wanted to come by and hear Mr. Goldin's testimony, and with your permission, I might have a couple of questions.

Senator BOND. Thank you, Senator.

Senator MIKULSKI. It is great to have you at the NASA hearing.

STATEMENT OF DANIEL S. GOLDIN

Senator BOND. Now, Mr. Goldin, if you would give us your statement. We will make the full statement a part of the record, as always, and invite you to make such comments as you think are appropriate for the oral presentation.

Mr. GOLDIN. Chairman Bond, Senator Mikulski, Senator Bumpers, I am very pleased to be here today.

This week we have not only seen what the work of our Nation's space program does, but the incredible scope of that work. Yesterday, as Senator Mikulski pointed out, newspapers were filled with pictures of a solar system revolving around a young star that is 13 trillion miles away. And, at the same time, we are peering out at the infinite vastness of space, our brave astronauts on the shuttle, working with researchers at the NIH, are looking inward at the infinite complexity of the human brain.

These projects would not be possible without this committee's support of the origins program and the life science program. So, I want to begin today by thanking all of you for that support, especially Senator Mikulski who was responsible for bringing NASA and NIH together back in 1992.

Mr. Chairman, my message today is this: NASA brings the same sense of commitment and conviction that led to this week's events to making our budget work. We continue to do more with less and we continue to do what we say we will do.

Since 1993, NASA's budget has come down, but we have made those reductions work for us and for the American people. Mr. Chairman, we have explored new worlds. We have enhanced life here on Earth and we have already saved the American taxpayer $25 billion, and by the end of fiscal year 2000, we will have saved the American taxpayer $40 billion. We are a high performance agency and our budget cuts have not changed that. Nothing says it better than this: The 1999 budget is down, yet we started 10 new programs.

Let me share with you another example. In the 1980's we launched only two interplanetary probes. In the next year or so, we will have launched one about every 10 weeks.

We are doing some exciting things in aeronautics and space transportation too. Over the past year, we joined forces with the aviation industry, the FAA and DOD and made an important new commitment to Americans in air travel, cutting the crash rate by a factor of 10. With this budget, NASA will help build a stronger America by committing to air and space travel that is not only faster, better, and cheaper, but cleaner and much safer.

In the area of Earth science, you will notice that the budget is lower in its 5-year projection than last year. There is a good reason for that and we are very proud of it. We now have lower-cost spacecraft that meet or exceed our toughest requirements. This lower budget not only fully funds our current programs, it also provides funding for two new programs and complements a third. This is a balanced aeronautics and space program.

We feel good about where NASA is today and where the agency is going. We will be working closely with you on all aspects of our budget, especially the International Space Station. We are all concerned about the cost overruns and schedule slips. I am not going to sugar-coat them. There have been some problems, even more so for our Russian partners, but we are getting it done. We are moving with confidence toward the first element launch this year. We are building the station and we will enrich our children's lives in ways we cannot even begin to imagine.

A final word about the station. To date, with the exception of $100 million that the Congress gave us, we have accommodated all the additional space station requirements within our own decreasing budget and at the same time, as I mentioned, we have strengthened all our other enterprises. This is because the men and women of NASA are doing an extraordinary job and I want to thank them and salute them. They represent the very best of America.

PREPARED STATEMENT

I want to thank you again for your support. I began by talking about the vastness of space and the complexity of the brain. Perhaps the only thing more infinite than those two things is our imagination. At NASA we tapped that imagination. We opened the air and space frontiers. Our mission is to pioneer the future. This is what we do for America, but this is not something NASA does by itself, not by a long shot. This is something the administration makes possible. This is something that you make possible. This is something we must do together.

Thank you. I am happy to take your questions.

[The statement follows:]

PREPARED STATEMENT OF DANIEL S. GOLDIN

Mr. Chairman and Members of the Subcommittee, I am pleased to be here to present to you NASA's budget request for fiscal year 1999. I look back at 1997 in pride at what the NASA team has accomplished. It was an incredible year, one in which discoveries from NASA missions filled the calendar, the front pages of our Nation's newspapers and magazines, and television screens around the world: images of rocks, nicknamed "Scooby Doo" and "Barnacle Bill," from the surface of Mars; images of the surface of Jupiter's moon Europa, suggesting the possibility of hidden, subsurface water; spectacular images from the Hubble Space Telescope of a galactic collision and the resulting birth of 1,000 bright young star clusters; the image of the El Niño weather phenomenon underway in the Pacific, combining information taken from a variety of earth observing satellites and instruments; and the image of the Space Shuttle Endeavor, lighting up the night sky, on another trip to the Mir Space Station, where U.S. and Russian astronauts are gaining experience in space operations that will prove invaluable in the assembly and operations aboard the International Space Station.

This is what NASA is all about. Our vision says it best. NASA is about exploring, about innovation, about pushing the frontiers of aeronautics and space. NASA's Strategic Plan defines this vision and poses fundamental questions of science and research that provide the reason for why we exist and the foundation for our goals. These questions are fundamental for everyone:

—How did the universe, galaxies, stars and planets form and evolve? How can our exploration of the universe and our solar system revolutionize our understanding of physics, chemistry, and biology?

—Does life in any form, however simple or complex, carbon-based or other, exist elsewhere than on planet Earth? Are there Earth-like planets beyond our solar system?

—How can we utilize the knowledge of the Sun, Earth, and other planetary bodies to develop predictive environmental, climate, natural disaster, and natural resource models to help ensure sustainable development and improve the quality of life on Earth?

—What is the fundamental role of gravity and cosmic radiation in vital biological, physical, and chemical systems in space, and how do we apply this fundamental knowledge to the establishment of permanent human presence in space to improve life on Earth?

—How can we enable revolutionary technological advances to provide air and space travel for anyone, anytime, anywhere more safely, more affordably, and with less impact on the environment and improve business opportunities and global security?

—What cutting-edge technologies, processes, and techniques and engineering capabilities must we develop to enable our research agenda in the most productive, economical, and timely manner? How can we most effectively transfer the knowledge we gain from our research and discoveries to commercial ventures in the air, in space, and on Earth?

This is the first NASA budget formulated in response to the goals of the Government Performance and Results Act (GPRA). To demonstrate our commitment to the achievement of the goals of GPRA, we have implemented a Strategic Management System. This system assigns guidelines and responsibilities for program development including planning, implementation, execution, and performance evaluation. Central to the system are the four NASA Strategic Enterprises that encompass the

programs and activities that support our goals, and are responsible for answering these fundamental questions and satisfying our customers' requirements.

The NASA Strategic Plan defines our vision, mission, and goals for the future. While GPRA requires 5-year plans, NASA has laid out a course of proposed opportunities for the next 25 years. The NASA Performance Plan provides evaluation measures and performance targets for selected programs and activities for our Enterprises and Crosscutting Processes. We will hold ourselves accountable to achieve our goals and performance targets and do what we say we will do. We have established challenging, though realistic, achievement targets and will inform you of our progress when we publish the Performance Report in March 2000.

We at NASA will celebrate our 40th anniversary this year. I am proud of the NASA team that has reinvented NASA to make it better than ever. NASA's transition over the past several years has been incredible. The amount of upheaval, uncertainty, and challenge to every aspect of the way we do business has touched every corner of NASA. It has been hard, incredibly hard. But the NASA team has met that challenge and emerged stronger, more flexible, for the fight. And the results are obvious. Faster, better, cheaper is not a slogan—it is routine. The fiscal year 1994 budget included funding for 11 Space Science missions; the fiscal year 1999 budget request contains funding for 28 missions. The original Earth Observing System envisioned a few large and expensive spacecraft. The current EOS program encompasses many much smaller missions at a significantly lower cost. This will enable the infusion of new technology development and is responsive to emerging scientific discoveries. The NASA Aeronautics Program is at the forefront of the Administration's National Partnership in Aeronautics Research and Technology. And all the while, the size of our workforce has been reduced by 5,700 FTE since 1993, and is on target for a total complement of about 17,800 by fiscal year 2000. We have reduced the size of Headquarters by over half in this time.

One thing has not changed—NASA's commitment to a space and aeronautics program that is balanced, relevant and stable. Let us go back two years. In the fiscal year 1997 budget request, the outyear planning numbers were disappointing, but we knew they were not cast in stone. In 1996, the President's National Space Policy committed to stable funding for NASA. In the fiscal year 1998 budget request, the President gave NASA a stable funding level of $13.5 billion for fiscal year 1998 and an outyear baseline of $13.2 billion. The fiscal year 1998 budget request was a vote of confidence from the President and the Administration. It was a vote of confidence that NASA had done what it needed to do—technically, scientifically, and organizationally—for the Nation's space and aeronautics program.

Once again, in the fiscal year 1999 budget request, NASA has been given a vote of confidence from the President. NASA has pledged to meet its commitments, and with the fiscal year 1999 request we will continue to deliver on our promise. Total funding in the fiscal year 1999 budget request for fiscal year 1998 through fiscal year 2002 represents an increase of $442 million over last year's runout. This budget is a resounding success for NASA. It also expands our horizons in two areas—Space Science and Future Space Launch.

Last year's incredible achievements of NASA's Space Science Program significantly advanced our understanding of the Universe and posed even more daunting questions. The landing of the Mars Pathfinder spacecraft on the surface of Mars and exploration of the surrounding terrain by the Sojourner rover captivated the Nation for several months. The Hubble Space Telescope discovered over 1,000 bright, young star clusters resulting from the collision of two galaxies. The launch of the Cassini spacecraft will result in the first landing of a probe on one of Saturn's moons. Examination of images and data from Galileo is adding to our knowledge of Jupiter and its moons. The early pictures coming back from the Mars Global Surveyor are amazing in their depth and detail and add to the knowledge gained from Mars Pathfinder.

NASA's fiscal year 1999 budget includes a major funding increase for Space Science that will capitalize on this success. These funds will support an augmentation to the Mars Surveyor Program to enhance the Mars 2001 lander and the initiation of a series of Solar Terrestrial Probes to track solar phenomena and their impact on the Earth. We will also be able to initiate mission development for the Gamma-ray Large Area Space Telescope that will investigate the end states of stars' lives and to seek out the most extreme environments in space. The budget also continues NASA's commitment to the search for the origins of life. In response to evidence of possible subsurface oceans discovered by the Galileo mission on Jupiter's moon Europa, we will begin planning for a mission to launch in 2003 to enable closer investigation of this possibility.

The second area that holds enormous potential for the future is the next generation of launch vehicles. In order to achieve significant savings in the cost of space

missions, we must lower the cost of going to orbit by orders of magnitude. The Reusable Launch Vehicle (RLV) program is addressing the critical technologies needed to achieve major leaps forward to meet the challenges and lower the costs of future space missions. In fiscal year 1997, the X–33 and X–34 programs both successfully passed critical design tests.

Funding requested in fiscal year 1999 will continue hardware fabrication and testing in preparation for flight demonstration of both these technology demonstrators in 1999. The RLV program is a partnership between NASA and industry, built on industry-led cooperative agreements. Phase II of the X–33 program, encompassing both flight and ground tests, is underway and is expected to lead to a decision by the Government and our industry partners whether full-scale development of an RLV should be pursued. New funding is included in the NASA budget runout to support a decision at the turn of the century on what type of operational launch systems NASA should invest in that will reduce the costs of access to space.

The International Space Station (ISS) development effort is at its most critical point. During 1997, the program focused on the continued qualification testing and manufacture of flight hardware. We are only a few months away from the scheduled first element launch and subsequent assembly flights throughout 1999. Node and Laboratory module fabrication is complete and the node and pressurized mating adapter have been delivered to the Kennedy Space Center for launch preparation. Activities are well underway to support crew training, payload processing, and hardware element processing. Our international partners have continued development of flight hardware in support of their commitments. The President's fiscal year 1999 budget request includes revised outyear estimated for ISS to address important future needs, including funds to provide a long-term solution to the safe return of the full complement of Station crew members. Without the additional funds included in the fiscal year 1999 submission, short-term fixes would likely result in very expensive outyear problems. I have included a comprehensive status of this ambitious program later in this statement.

NASA has stated from the outset that this program was not going to be easy. The size and complexity of the ISS is unprecedented. Our continuing work with the Russians is providing an invaluable foundation for the assembly and construction activities of the Space Station that are now only a few months away. Despite the concerns surrounding the condition of Mir last year, the experience we are gaining through our cooperation with the Russians will be instrumental to the success of this program. NASA remains firmly committed to building the International Space Station on time and at the least cost to the American taxpayer. President Clinton has been unwavering in his commitment for the United States to continue to play a leadership role. NASA will deliver on this commitment. NASA is grateful that the Congress appropriated $230 million of the additional $430 million sought by NASA in fiscal year 1998 to meet program requirements and maintain an adequate level of program reserves. Adequate program reserves must be available to enable accommodation of unforeseen technical developments inevitable in a program of this complexity. The pending fiscal year 1998 appropriations transfer authority is sought in order to maintain planned assembly schedule for the U.S. and its international partners, react to new program requirements as the need arises, and control outyear costs. We continue to seek the support of this Committee to address this need.

Our highest priority continues to be the safe launch, operation, and return of the Space Shuttle and crew. NASA's proposed fiscal year 1999 budget will enable the continuation of Shuttle upgrades, including work on the Main Engine and the Orbiter. In addition, improvements to Shuttle performance, such as the Super Lightweight External Tank, remain on track. Over the next two years, Space Shuttle operations will continue the transition to a single prime contractor. In sum, the Space Shuttle team remains committed to delivering on its promise: meeting the flight rate for less money and with improved safety.

Research progress on the Mir space station, the Space Shuttle, and on the ground continued expanding our understanding of fundamental physical and biological processes while pointing the way to the most productive areas of research for the International Space Station. In addition to biomedical data, Mir research produced the first multi-generation plant experiments in space and expanded the duration of inflight tissue culture experiments from two weeks to over four months. On the Space Shuttle, the flight and reflight of the first Microgravity Space Laboratory mission foreshadowed the flexibility and regular access our research communities will enjoy on the International Space Station. The mission yielded the first measurements of specific heat and thermal expansion of glass-forming metallic alloys, and the crew were able to sustain the weakest flames ever burned either in space or on Earth and studied the longest burning flames ever ignited in space. Combustion research

in space may lead to applications that help reduce pollution and increase energy efficiency on Earth.

NASA's fiscal year 1999 request for the Earth Science Program, formerly the Mission to Planet Earth Program, will continue to provide valuable data right now to improve our understanding to the Earth system. Data from missions underway, including the Upper Atmosphere Research Satellite, TOPEX/Poseidon, and SeaWIFS, as well as data from the recent NASA Scatterometer mission, is contributing to an integrated understanding of the El Niño phenomenon that is affecting weather patterns around the world. The commercial implications of this weather condition are profound—stretching from the commercial fishing industry to record storms and snowfalls across the Nation. The Earth Observing System (EOS), the centerpiece of NASA's contribution to the U.S. Global Change Research Program, has undergone a profound transformation. As a result of this summer's Biennial Review, the program is now positioned to respond quickly to new advances in instrument technology and scientific breakthroughs, which will be complemented by a series of small, rapid development Earth System Science Pathfinder missions.

Funding included in NASA's fiscal year 1999 request for Aeronautics and Space Transportation Technology will continue to contribute significantly to the needs of the Nation. In the summer of 1997 over the sands of Kauai, NASA's solar-powered aircraft Pathfinder set an altitude record for propeller-driven flight of over 71,500 feet. In 1999, we will begin flights of the Centurion, which is designed to reach 100,000 feet. This type of technology will enable high-altitude, long-endurance for affordable, unpiloted science missions. The fiscal year 1999 budget also continues our commitment to the Administration's Aviation Safety Initiative. NASA will invest $.5 billion over the next five years to develop, in partnership with industry and other Federal agencies, breakthrough technology for safer, more reliable air transportation.

These are the highlights of NASA's fiscal year 1999 budget request. Enclosure 1 of my statement discusses the fiscal year 1999 plans of NASA's Enterprises in detail, and the manner in which NASA's budget request supports the Agency's continuing efforts to deliver better programs for less.

ENCLOSURE 1

HUMAN EXPLORATION AND DEVELOPMENT OF SPACE

NASA's Human Exploration and Development of Space (HEDS) Enterprise includes the International Space Station, Space Shuttle, and Life and Microgravity research. HEDS seeks to bring the frontier of space fully within the sphere of human activity for research, commerce, and exploration.

International Space Station

In 1993, we undertook the significant challenge of building and integrating the world's largest and most advanced orbiting laboratory with the combined resources and mutual interests of fifteen nations, now sixteen. We are ready to launch this year and we plan to achieve 6-crew capability in November 2002, just 5 months later than originally planned. This performance is a tribute to thousands of dedicated NASA civil servants and contractor employees across this Nation.

As a partner, the U.S. is performing well in meeting milestones and overcoming issues. The U.S. Node 1 was delivered to the Kennedy Space Center (KSC) nine months ago, and is undergoing final preparation and checkout along with two Pressurized Mating Adapters. Several other key elements have also been delivered to KSC, including the ZI Truss and the third Pressurized Mating Adapter, in preparation for launch early next year. A very complex piece of equipment, the Integrated Electronics Assembly, is now being outfitted at KSC with critical components of the power system in preparation for a mid-1999 launch. We expect the U.S. Laboratory module and the remaining flight hardware for the first six flights to be delivered to their respective launch sites by the end of 1998.

The dedication of our workforce has enabled this impressive performance in the face of unforeseeable difficulties. A large majority of our international partners are also performing well. By the end of 1997, the partners had completed over 100,000 pounds of flight hardware; another 50,000 pounds is to be completed by the end of 1998. To date, those partners have invested over $4.5 billion in their contributions to the program.

Together, the United States and our partners had produced over 368,000 pounds of flight hardware at the end of 1997; by the end of 1998, this amount will almost double. When the Station is complete, we will have a research facility on-orbit exceeding one million pounds.

We are clearly in a position to move forward to begin the on-orbit assembly of the International Space Station. To help us do so more proficiently, the knowledge gained on the Phase 1 Shuttle/Mir program will be used to the fullest. This preparatory step to the assembly and operation of the ISS continues to be a dramatic success. Our seventh and last U.S. occupant, astronaut Andy Thomas, has now been on board Mir for 89 days. By the time he returns to Earth, the United States will have accumulated a total of 804 days of uninterrupted presence in space. Adding to this the 115 days which Dr. Norman Thagard spent on Mir prior to that time, U.S. astronauts will have spent over 919 days in space aboard a space station by the end of Phase I. This exceeds by almost five months the total time accumulated by all 91 Shuttle flights since the beginning of the Shuttle program in 1981.

This unprecedented experience has taught us how to work across international boundaries on complex space operations, including on-orbit rendezvous and docking, rapid turnaround resupply, and on-orbit maintenance and repair. Our understanding of long-term space research has also improved with new appreciation in many areas, from physiological effects of the microgravity environment, to crystal growth, to space radiation effects on electronics. The Shuttle/Mir experience has been equally valuable on the ground. ISS operational plans and mission control procedures, documentation and integration have been refined as a direct result of Phase 1 experience. The knowledge and experience gained from the Shuttle/Mir program is contributing materially to the ISS in terms of reduced risk, and safer, more proficient assembly.

Development Phasing Down/Utilization and Research Increasing.—As we near the end of our Phase 1 activities and begin to complete major ISS hardware modules, the development effort is entering a downward curve in terms of manpower and resources, and efforts in preparation for the utilization of the Station's research facilities are ramping up. The ISS utilization program has been restructured to better phase the on-orbit deliveries of research equipment to be more in concert with the actual availability of the on-board resources for research, particularly during the assembly sequence.

The fiscal year 1999 multi-year budget plan reflects a lower annual funding level for the Research Program for fiscal year 1999 in recognition of the revised timeline for the ISS assembly schedule. At the same time, the Research Plan reflects an increase in annual funding levels for fiscal year 2002–2003 above levels assumed in last year's budget. All priority research facilities will be onboard the ISS by the completion of assembly. NASA remains fully committed to meeting Space Station research requirements and will accommodate the funding requirements for those research capabilities in the funding runout of the program.

In addition to improved synchronization of planned utilization with on-orbit research support capabilities, another significant benefit from the rephasing of the Research Program has been to allow research facility designers additional time to infuse new technology into their designs to improve the facilities' operations and reduce operational expenses. This will result in an even more capable and effective research capability than that originally planned after the 1993 redesign.

Our plan calls for taking advantage of research opportunities as early in the assembly sequence as possible. There are recognized difficulties in performing research during ISS assembly, but we are committed to taking maximum advantage of all opportunities during that period, as we did during the early flight tests of the Space Shuttle program. Facility-class research payloads will begin being delivered to the Space Station on flights 7A.1, Utilization Flight-1, and Utilization Flight-2. Development of research facilities for UF–1 and UF–2 is well under way including the Human Research Facility, Express Racks, and Microgravity Science Glovebox. Deployment of the Express Racks is concentrated early in the assembly sequence to allow multiple research opportunities.

Most research during the early assembly phase and up to Utilization Flight-3 in late 2001 will be concentrated in small-scale experiments such as those compatible with EXPRESS-rack and Middeck locker-class accommodations. We will take advantage of opportunities on assembly flights to transport Middeck-class payloads to the ISS and return research products.

Examples of research during the assembly phase include protein crystallization to aid in structure-based drug design; three-dimensional cell tissue culturing to better understand normal and abnormal cell growth; plant growth to investigate genetic engineering potential; and zeolite crystal growth to improve materials for chemical processing.

Further activities to support assembly-period research include:

—deployment of ISS facility-class payloads and accompanying research hardware, beginning with one internal pressurized utilization rack in 1999, and building

to 27 racks and 14 external equivalent payload sites for NASA by the end of assembly;

—utilization of external attached payload sites, beginning with Utilization Flight-4 in early 2002;

—addition of dedicated Space Shuttle research flights for the U.S. and international life and microgravity research community in October 1998 (STS–95) and possibly May 2000 (STS–107), and possible development of stand-by research missions and payloads to fly on an "as-available" basis during assembly to further support continued access for space research; and,

—increased Shuttle middeck locker capability, from 4 to 17 lockers, beginning with Utilization Flight-3.

ISS Research Capabilities Improved.—While maximizing research opportunities during assembly, we will continue our efforts to ensure the best possible research capability is aboard the completed Station. The following are examples of these ongoing activities:

—continued selection of world-class investigations for both ground-and space-based research opportunities. NASA is working to increase the number of Life and Microgravity Sciences and Applications Principle Investigations (PI's) with research grants from 700 PI's in 1997 to 900 PI's by 2001;

—increasing opportunities for commercial involvement with the ISS, working through NASA's 11 Commercial Space Centers (CSC), coordinating between NASA, industrial affiliates, and academic and government partners to advance commercial space interests. These CSC's represent over 136 industrial affiliates and more than 50 university affiliates;

—continued pursuit of a capability for commercial use and operation of the ISS;

—continued efforts to take advantage of any opportunity to enhance research capability in the course of making changes in schedule and configuration of the ISS; for example:

—improvements made to the ISS platform itself have resulted in indirect positive impacts in research capacity, such as improvements in resource provisions and functional reliability;

—Russian-driven ISS changes have provided early power with the photovoltaic module, increased external thermal control for attached payloads; a new flight attitude for better power generation, and additional control authority and refueling capability for the Control Module (FGB);

—several ISS changes have improved the capability of research facilities, such as: the addition of the Early Communications System; the ISS Systems Integration Lab; Multi-Element Integrated Testing; enhancements to the Portable Computer System; and the active rack isolation system;

—the addition of wiring scars to the U.S. Laboratory module enhances communications capability for data transfer, and the addition of a Communications Outage Recorder ensures that no research data is lost during communications dropouts;

—the addition of an Environment Monitoring Package to characterize the external environment for attached payloads ensures that designs adequately address environmental effects on attached payloads; and,

—definition of ISS telescience communications requirements, including Ku uplink and downlink bandwidth, plus video improvements.

The research capability resulting from these items will be robust in providing opportunities for life and micro-gravity sciences, Earth sciences, space sciences, engineering research and technology development, and the commercial development of space. The ISS will also provide a learning experience for living in space, and will demonstrate the technology required to provide the capability to further explore the space frontier.

Development Challenges Remain.—Although significant progress has been made, we still face a number of development challenges as we approach the initial phases of assembly of this enormous vehicle.

The U.S. Laboratory module is currently 6 weeks behind schedule, having improved its schedule position over the last few months. The Lab team continues to meet milestones intended to recover schedule to meet the target launch date of May 1999. Their performance against several key milestones in the near term, including installation of the Lab hatch and additional racks, and the performance of element qualification testing, will contribute to a more accurate assessment of schedule risk.

Software development and testing is expected to remain a key issue throughout this year. The software development and testing schedules are tightly linked with the schedules for system and element level testing, operations planning and crew training. As difficulties develop in any area, a broad range of affected parties will

need to tightly coordinate corrective actions to prevent the problem from developing into a schedule slip.

Subcontractor parts delivery issues continue to be a challenge for a variety of reasons. We expect to continue to struggle with this issue due to the enormity of the program and multitude of potential problem areas at the subcontractor level. Our continued close monitoring of this issue includes measurement of subcontractor cost, schedule, technical, quality and recovery.

As reflected in the President's request for fiscal year 1999, a requirement has been added for development of a Crew Return Vehicle (CRV) which is intended to be continuously present at the Station while it is occupied; a "placeholder" estimate has been included in the proposed budget, which we will refine further. A CRV capability is required to have capability to transport up to 7 crew members. The Russian Soyuz capsule, which can carry three persons, is currently being modified to accommodate more diverse physical sizes of astronauts. It will serve the CRV function until the U.S. CRV is delivered in 2003. The X–38 is a system technology demonstration program which should provide the primary design basis to satisfy the crew return requirement. An internal study is currently being conducted to verify X–38 capability to CRV requirements. The CRV requirements will also include be examined as part of a larger future launch study being undertaken by NASA and industry. The production of CRV operational vehicles is planned to begin in fiscal year 2000.

As we work to mitigate these key issues and continue our diligent management of this massive program, the performance of our prime contractor, Boeing, remains under close scrutiny. Boeing has projected their variance at completion (VAC-their estimated increase over the originally contracted budget) to be $600 million, rebaselining their performance plans to incorporate this amount. They have been performing according to this new plan, but some deterioration has occurred. There is a $50 million threat to Boeing's cost mark for fiscal year 1998, but this is within NASA's fiscal year 1998 operating budget, NASA having estimated more conservatively for prime performance by including budget coverage for a Boeing VAC of $817 million.

Pending Fiscal Year 1998–1999 Requests Address Current/Future Requirements.—NASA's fiscal year 1999 budget proposal and proposed fiscal year 1998 appropriations transfer authority address these kinds of issues, and others, in meeting current ISS requirements and addressing important future needs.

Mr. Chairman, as you know, in September 1997, NASA outlined for the Congress a requirement for an additional $430 million in fiscal year 1998 for the International Space Station, which NASA indicated could largely be accommodated within NASA's overall budget. The requirement for additional funding for ISS was driven by:

—Russia's announced delay of their Service Module from May 1998 to December 1998;

—the emergence of significant cost growth in the prime contract effort;

—necessary technical program changes which had not been definitized at the time of the formulation of the fiscal year 1998 budget request; and,

—the need to provide an adequate overall funding level sufficient to avoid risk and address unforeseen problems and technical developments.

We are grateful that Congress accommodated $230 million of the $430 million requirement through reallocations of NASA funding and an additional appropriated amount above the President's request. On February 20, 1998, the Administration forwarded to Congress a request for enactment of fiscal year 1998 appropriations transfer authority for NASA as part of the proposed fiscal year 1998 emergency/non-emergency supplemental appropriations to address the $200 million ISS shortfall. This provision would permit NASA to transfer a total of $173 million in uncosted funds from NASA's Science, Aeronautics and Technology and Mission Support appropriations accounts to the Human Space Flight account for the Space Station; the remaining $27 million would be reprogrammed within the Human Space Flight account.

The total $430 million estimated additional requirement for ISS in fiscal year 1998 was developed in recognition of the critical importance of maintaining both adequate prime contractor funding levels and adequate reserves to address unanticipated requirements in the major hardware and software integration effort currently in progress. With the $230 million made available to date, the ISS program has funded all prime contract requirements and changes that have been definitized; however, without the additional funds, the additional liens and threats already identified for fiscal year 1998 place the program at high risk. In fact, the ISS program is today in a deficit posture for fiscal year 1998; that is, the program has identified liens and threats the costs of which, if all occur, will exceed available fiscal year 1998 funds.

NASA's fiscal year 1999 budget request for the ISS was developed with the assumption that an additional $200 million in fiscal year 1998 would be made available. These additional funds would help the program to maintain its developmental activities and maintain a reasonable level of program reserves to accommodate unplanned technical developments over the remainder of the year. Fortunately, since the submission of the fiscal year 1999 budget and fiscal year 1998 budget supplemental requesting appropriations transfer authority, the program has performed well, thus reducing the immediate urgency for the $200 million in additional fiscal year 1998 funds. We still believe, however, that funds are needed for uncertain fiscal year 1998 risks as well as budget threats that exist for fiscal year 1999. To the extent that budget shortfalls arise and additional funds are not available, NASA would need to protect near-term development activities to avoid costly disruptions and, therefore, would be forced to reduce: operational readiness activities; activities for Phase III of ISS assembly; and/or, ISS research projects and utilization support.

NASA believes it is imperative that up to $200 million be made available to the ISS program, and is prepared to work with the Committee to secure an acceptable plan to identify these resources.

In October 1997, NASA established an independent Cost Assessment and Validation Task Force, chaired by Mr. Jay Chabrow, under the auspices of NASA's Advisory Committee (NAC) on the International Space Station. The Terms of Reference call for the Task Force to provide advice and recommendations for cost effective modifications to the present business structure and cost-management practices of the ISS Program, and for determining total ISS cost over the program life. The report is expected to be released for general review in the immediate future; in public sessions the CAV has highlighted cost and schedule concerns with a variety of risk areas in the Program. The team has also commended NASA on its management of this incredibly complex project. While we may differ on the level of criticality of specific issues raised, I believe the CAV team has captured important risk areas for NASA and the ISS Program to consider.

The President's fiscal year 1999 request provides multi-year funding through an advanced appropriation for the complete development of the Station, with Station assembly beginning in 1998 and estimated to be complete by late 2003. The additional funding included in the fiscal year 1999 proposal for fiscal year 1999–2003 totals $1.4 billion, including the pending request for appropriations transfer for fiscal year 1998. This increased estimate provides necessary funding for:

—Boeing performance-NASA's estimate of remaining resources required to accommodate prime contractor cost growth (the majority of resources required to address this requirement has already been incurred in prior years);

—Changes-includes an estimate for changes definitized to date, plus a planning estimate for future changes;

—Sustaining Engineering-incorporates negotiated value with prime contractor for sustaining engineering and projections for outyears;

—Logistics-incorporated negotiated value with prime contractor for spares and projections for outyears;

—Crew Return Vehicle-formally incorporates a requirement for development of this capability to the budget profile; and,

—Reserves-provides for restoration of reserves to accommodate anticipated future challenges.

Mr. Chairman, let me emphasize that only a fraction of these revised outyear estimates are tied to actual "overruns." The greatest challenge for any development program is to minimize the occurrence of such overruns. They are tolerated only to the extent that they result from our technical objectives proving to be more difficult to reach than originally believed. Overruns for lack of effort, lack of due diligence, or any other avoidable cause are unacceptable. However, certain increases in program costs can be prudent and necessary if they result in ensuring the success of the program mission.

Development of the Interim Control Module is an example of a prudent additional expenditure, in this case, to guard against costly schedule delays evoked by Russian Service Module issues. Implementation of a Multi-Element Integration Test program (MEIT) is another example of a decision to make an additional expenditure which adds very important capability. Conducting integrated testing and verification of elements on the ground greatly increases our confidence in successful on-orbit operations and greatly reduces risk of increases in future costs.

Russian Funding Commitments Must Be Met.—The positive accomplishments I have outlined and the budget discussed above could both be threatened by any further performance difficulties on the part of our Russian partners. The concern is not one of quality; our confidence in Russian technical capability remains unshaken. In fact, when provided with necessary resources, the Russian Space Agency has per-

formed in an excellent fashion. The issue is uncertainty in Russian Government funding for ISS, which impedes not only the ability of the Russian Space Agency to meet the development schedule of the Service Module, but also the ability to produce the Progress and Soyuz vehicles which provide logistics supply and crew rescue capability for both the Mir space station and the ISS.

I can report several recent developments concerning Russian Government funding for their contributions to the ISS Program. The Ministry of Finance transferred $20 million to RSA the week of March 9; it has been reported that an additional $15 million was transferred to RSA, leaving $44.5 million to be transferred prior to the end of May. RSA also received $40 million in 1998 funds earlier this year to pay suppliers in critical areas. The approved 1998 Russian Government budget, passed by the Duma the week of March 4, includes $100 million for the ISS Program; this budget was signed by President Yeltsin on March 27. This, however, does not cover the full funding required in 1998. An additional $240 million is required through off-budget funding to fully support the Russian contribution to ISS. We will closely monitor the actual distribution of these funds.

Considerable technical progress with respect to Russian contributions has been made as well. The Service Module (SM) test and flight hardware are much further along than one year ago. We have received reports from NASA officials in Russia that 95 percent of all Service Module components have been installed, with an additional 2–5 percent to be installed in the next two weeks. The Complex Stand test article electrical cable installation is complete, with autonomous testing having been performed since November. Stage 2 of the electrical cable installation has been completed for the Service Module Flight Article. Lifetime testing on major components is progressing with no significant problems. Although progress has been steady, the Russians acknowledge that the Service Module is three to four months behind the baselined December launch date.

Because of the important role played by the Service Module in early command and control and habitation capability, any serious delay in its development clearly impacts the entire ISS Partnership. We will carefully monitor the progress of the Russian Government in allocating funds, Russian progress in the integrated testing of the Service Module test article, and flight article hardware and software deliveries. Given the critical decisions we are currently facing, NASA's near term decision criteria are firmly established. On April 28 there will be a Russian General Designers Review and on April 29 a Joint Program Review. NASA will use information from these meetings to assess Service Module milestone progress and technical issues, funding status and impacts on schedule. In May, NASA will assess SM and U.S. Laboratory status and finalize a recommendation to manifest the Interim Control Module or confirm SM, FGB and Node launch dates. On May 25, the Space Station Control Board will approve a new assembly sequence with concurrence of all International Partners. Finally, on May 29, a Heads of Agencies meeting is scheduled to validate the baselined assembly sequence.

In addition to these requirements, we remain extremely concerned about the status of RSA plans to de-orbit the Mir space station. The total number of Progress and Soyuz vehicles required to support ISS, continued Mir operations, and Mir deorbit exceeds Russia's current annual production capability. This anticipated vehicle shortfall will occur during the most intensive period of ISS assembly operations and the shortfall could cause significant risk for the ISS. We will continue to work to secure a commitment from RSA to a timely de-orbit of Mir.

Mr. Chairman, I have discussed the real technical progress of our ISS team, both here in the United States and in our partner countries. Over the last four years we have made great progress with the support of the President and the Congress. Each year, we have made progress in overcoming problems and meeting new challenges. I believe that the fiscal year 1999 budget request for the ISS Program, combined with the request for fiscal year 1998 transfer authority, represents a fair and realistic, but admittedly ambitious, budget that will enable us to complete development of a world-class, orbiting research facility, with minimum cost to the U.S. taxpayer. It should be emphasized that NASA's fiscal year 1999 budget proposal for the International Space Station assumes that the appropriations transfer will be approved. We seek the support of this Committee for the additional fiscal year 1998 resources as outlined and for full funding of the President's request for fiscal year 1999.

Space Shuttle

The fiscal year 1999 budget request for the Space Shuttle program supports two major activities: Safety and Performance Upgrades ($571.6 million) and Space Shuttle Operations ($2.487 billion). Safety and Performance upgrades funding supports the modifications and improvements to the flight elements and ground facilities, which are expected to expand safety and operating margins, enhance Space Shuttle

capabilities to meet customer requirements, and provide replacement of obsolete systems primarily through the Upgrades Program. Two of our most critical Phase I upgrades have recently passed major milestones.

First, STS–89, our most recent Shuttle flight, was launched using the new large throat main combustion chamber in the Space Shuttle Main Engine which was designed to allow the engine to operate at a lower chamber pressure while maintaining performance. The lower chamber operating pressure reduces operating temperatures and pressures throughout the engine system, resulting in improved reliability and safety margins. The wider throat accommodates more cooling channels and an accompanying reduction in hot gas wall thickness, thereby increasing chamber life. This design is less labor intensive to produce and maintain. The performance of the new hardware was excellent during the flight. This new hardware will help to improve Shuttle safety, reliability and maintainability. Second, the first Super Lightweight Tank designed to support assembly of the International Space Station was officially certified for flight and rolled out of its assembly facility. The tank is 7,500+ pounds lighter than its predecessor and will allow the Shuttle to carry heavy cargo to an orbital inclination of 51.6 degrees.

Shuttle Operation funding supports hardware production, ground processing, launch and landing, mission operations, flight crew operations, training, logistics, and sustaining engineering to maintain and operate the Shuttle fleet. The main operational contract, the Space Flight Operations Contract with United Space Alliance, successfully completed a first year of transition and consolidation while supporting eight missions in fiscal year 1997. Phase II of the consolidation, began in fiscal year 1998 and will continue in fiscal year 1999. Six Shuttle flights are manifested for fiscal year 1998, including our first assembly flight of the International Space Station, a truly historic landmark. However, because of technical problems at the contractor facility, there is a possibility that the launch of AXAF could be delayed until early fiscal year 1999. Space Station assembly will dominate fiscal year 1999 with eight scheduled flights.

The Shuttle program will continue to focus on flying safely, supporting the manifest, improving support to our customers and reducing cost.

Life and Microgravity Sciences and Applications

NASA's Office of Life and Microgravity Sciences and Applications looks forward to important flight- and ground-based research opportunities in 1998 and 1999 which will prepare NASA and its research communities for the transition to research operations on the International Space Station. Laboratory research on Station will include biotechnology, biomedical research, combustion science, fluid physics, gravitational biology, and materials science. The Station will serve as a platform for Earth observation as well as for space physics research. It will support engineering research as well as testing and research for an array of advanced technologies in scientific, medical, and life support operations and engineering research. We are working to facilitate commercial participation in Station research to help to bring new findings and products to markets on Earth. The fiscal year 1999 budget request for Life and Microgravity Sciences and Applications is $242 million.

1998 will see the end of both the Shuttle/Mir program and the Shuttle/Spacelab combination. Each of these platforms has played a significant role in preparing NASA for research operations on the International Space Station. Fourteen years of Spacelab-based experience have identified the most promising fields of research, while operations on Mir have prepared us for long duration research aboard the Station.

Research highlights of the Shuttle/Mir missions include the first successful seed-to-seed-to-seed plant experiments in space; that is, two generations of plants were grown in the Mir greenhouse from seeds transported from the ground. New measurements were made of the change in position of the South Atlantic Anomaly, a location where the trapped radiation belts dip closest to Earth, related to long-term drift of Earth's magnetic field. Researchers demonstrated a new technique for protein crystal growth that produces many times more crystals per mission. Analysis and publications of results from Mir will continue through 1999. Over 15 research papers have been published to date; 30 are expected to be published by next year. An element of the final U.S. Shuttle mission to Mir in May 1998 is the Alpha Magnetic Spectrometer, a payload sponsored by the Department of Energy. Proposed by Nobel Laureate Dr. Sammuel Ting, the Alpha Magnetic Spectrometer will search for cosmic sources of antimatter and dark matter. Detection of either would have far-reaching research implications concerning the origin of the universe and the fundamental structure of matter itself. The Alpha Magnetic Spectrometer also will be deployed on the International Space Station for long term operations after the turn of the century.

On April 17, NASA launches Neurolab, the last scheduled Space shuttle/Spacelab mission. Neurolab brings together the research efforts of three U.S. government organizations and five international space agencies to conduct an outstanding set of 26 research investigations. Peer review for the mission was conducted by the National Institutes of Health, and the broad participation of the research community has ensured scientific excellence on the mission. Neurolab focuses on the most complex and least understood part of the human body—the nervous system. The goals of the mission are: (1) to understand how the brain and nervous system interpret and adapt to new environments; (2) to shed light on how gravity influences the development and function of the nervous system; and (3) to use this knowledge to address nervous system afflictions on Earth.

Neurolab will expand the knowledge base available to researchers and physicians studying human physiology on the ground. For example, research on balance, blood pressure regulation, sleep, and the adaptability of the nervous system could make contributions to our understanding of medical problems that affect millions of Americans. Neurolab has a significant place in NASA's long-range plans. Long-duration space flights will become common as the ISS is built and occupied. This makes an understanding of how the human body functions in microgravity vital; Neurolab is expected to contribute key answers, clarifying the requirements for our future residency on the ISS and for improving health on Earth.

In order to ensure continued access to flight research during the assembly of the International Space Station, NASA has added dedicated Space Shuttle research flights for the U.S. and international life and microgravity research community in October 1998 and possibly May 2000.

The 1998 mission, STS–95, will include a SPACEHAB module and payloads in the payload bay. SPACEHAB is under contract to integrate and support operations for payloads in the pressurized volume of the module and Shuttle middeck, and is responsible for marketing a large portion of the accommodations. Microgravity investigations in the module and middeck on STS–95 will include research in biotechnology, biomedical, biological, and fluid physics. Biomedical research includes the aging process as developed under a NASA-National Institute on Aging agreement. Associated with the flight of Senator John Glenn on this mission, NASA is discussing with the National Institute on Aging how to maximize the scientific benefits of this unique opportunity. Both agencies want to conduct parallel ground-based studies with aged subjects who remain on Earth but undergo pre- and post-flight testing comparable to the STS–95 crew. These control subjects will enrich this project and greatly facilitate comparisons of responses to space flight with normal aging on Earth. A significant part of the research on STS–95 will be conducted to further the objectives of the commercial development of space. This will include research in support of new pharmaceuticals, separation techniques to facilitate developments such as blood element replacements, cell research to reduce host rejection of transplants, research on synthetic bone, a drug to block cancer metastasis, new antibiotics, micro-encapsulation techniques for enhanced drug delivery, and enhanced plant-derived products.

The May 2000 mission, STS–107, is another mission of opportunity for multidisciplinary and internationally sponsored research. The carrier for this mission will consist of a double module developed by Spacehab especially for research purposes. The STS–95 approach will be used as a template for the management and operation of this mission. The HEDS Enterprise is currently developing the research themes for this mission; considerations are being given to peer-reviewed and commercially sponsored research in biotechnology, materials sciences, biology and biomedicine. NASA will continue to seek partnership with NIH, NSF and other organizations in accomplishing this research.

In 1998 and 1999, NASA will expand its ground-based research program on the biological effects of space radiation. The radiation environment in space is substantially different from the radiation environment on Earth, and its biological effects are not well understood. Investigations will continue using proton and high-energy ion beams, including research using facilities at Loma Linda University and Brookhaven National Laboratory. This research focuses on the mechanisms by which space radiation modifies cells and tissues to become cancerous. Some of this work is sponsored jointly with the National Cancer Institute. A new collaborative effort will begin with the Space Flight and Space Science Programs to include radiation and soil/dust measuring devices on robotic missions to Mars beginning in 2001.

The newly established National Space Biomedical Research Institute (NSBRI) selected thirty-two research proposals in early 1998 and is working to complete a plan for developing advanced countermeasures for controlling the effects of space flight. Working with the Johnson Space Center, the NSBRI has begun a process to define

the critical elements necessary to develop and validate procedures to assure crew health in orbit and on return to Earth. These procedures will be defined in 1998 and implemented in 1999 so that they will be fully functional by the time of International Space Station operations.

NASA conducts its research activities in close cooperation with commercial, academic, and government researchers. With the launch of the first elements of the International Space Station this year, our primary research focus will be to prepare this diverse community for efficient and effective operations using the Station's expanded laboratory research capabilities.

SPACE SCIENCE

NASA's Space Science Program is a shining example of the new way of thinking at the Agency. In the last few years, we have removed billions of dollars from planned spending and have reengineered all aspects of how we do business. Expensive missions are a thing of the past. The size, complexity and cost of spacecraft missions have been reduced significantly, while increasing or maintaining their scientific capability. The President's proposed budget for fiscal year 1999 of $2.058 billion supports a strong and well-balanced program that will enable us to reap the benefits of this revolution.

NASA's Space Science Enterprise has embraced the philosophy of "faster, better, cheaper," and the results have been dramatic. The average development time for Space Science missions in 1990–94 was over 8 years; it is now about 4 years, and we expect the decline to continue. The average spacecraft development cost at the beginning of the decade was $553 million—compared to the current level of $165 million, and the projected 2004 level of $50–$75 million. In the early 1990's, the Space Science Program averaged fewer than 2 launches a year. This year, we have 10 launches planned, the first of which—Lunar Prospector—lifted off flawlessly in January and has begun its year-long, in-depth study of our Moon. Lunar Prospector has already fulfilled one of its main objectives by confirming the presence of water ice at the Moon's polar regions.

Perhaps nothing in recent memory embodies the concept of "doing more with less" better than last year's dramatic July 4 landing of Pathfinder on Mars. After more than 20 years, we returned to the Red Planet. Once again, we captured the world's attention, but this time we did it for a total cost of $266 million and with an operational staff of 50. That is NASA's new way of doing business.

And by no means was Mars Space Science's only success story. Discoveries from the Hubble Space Telescope, Galileo, the Compton Gamma Ray Observatory, and the Solar and Heliospheric Observatory (SOHO)—to name just a few—are broadening our understanding of the Universe and our place within the cosmos. For example, Hubble uncovered over 1,000 bright, young star clusters bursting into life in a brief, intense, brilliant "fireworks show" at the heart of a nearby pair of colliding galaxies. Galileo sent a probe into the heart of Jupiter and returned amazing pictures of icebergs on Europa, suggesting the possibility of hidden, subsurface oceans.

The Near-Earth Asteroid Rendezvous spacecraft gave us our first up-close look at Asteroid 253 Mathilde, which scientists believe dates back to the beginnings of the Solar System. Also in 1997, we realized the long-awaited launch of NASA's last "big" planetary mission, Cassini/Huygens. Cassini, along with its ESA-built Huygens probe, is on a 7-year journey to study Saturn, its moons, and its rings. Scientists using the NASA–ESA SOHO mission have discovered "jet streams" of hot, electrically-charged plasma flowing beneath the surface of the Sun. These new findings should help scientists understand the famous 11-year Sunspot cycle and associated increases in solar activity that can disrupt the Earth's power and communications systems. Astronomers using NASA's Rossi X-ray Timing Explorer spacecraft have observed a black hole that is literally dragging space and time around itself as it rotates. This bizarre effect, called "frame dragging," is the first evidence to support a prediction made in 1918 using Einstein's theory of relativity.

These successful Space Science missions are having an immense impact being felt not only in college lecture halls, but also in newspapers, on television, and in the textbooks of tomorrow. We are heightening the sense of accomplishment and adventure that is a hallmark of our Nation's Space Science program.

As NASA approaches its 40th birthday, it is an inspiration to look back and marvel at all we have learned in the area of Space Science. What lies ahead in the next 40 years and beyond are detailed studies of the various mysteries we have so far uncovered. A new, interdisciplinary approach has been developed to make the next great strides possible. In Space Science, we have identified four basic themes around which we will operate and organize ourselves. The four science themes are: Sun-Earth Connection, Exploration of the Solar System, Structure and Evolution of the

Universe, and Astronomical Search for Origins. In addition to these main themes, the Space Science program includes an Astrobiology Initiative, which is a research and analysis program that cuts across the four themes. This Initiative will focus on the origin and distribution of life in the Universe.

The President's proposed budget for fiscal year 1999 budget will enable continued study of the Sun, the Solar System, and the Universe. It maintains support for the Origins Initiative approved by Congress in the fiscal year 1998 budget to search for planets around other stars, to study galaxies as they are born, and to look for evidence of life elsewhere in the Solar System and the Universe. The President's budget adds funding to fulfill much of the promise of the new Space Science Strategic Plan with new initiatives to investigate the evolution and destiny of the Universe, complementing the Origins initiative begun last year. Some examples of programs in the new initiatives are: continuing the ISTP missions through Solar Maximum in order to obtain a comprehensive set of data throughout the 11-year solar cycle; continuing Solar-Terrestrial Probes after TIMED, with Solar B and Solar Stereo as the next two missions; joining with ESA on the FIRST mission to observe the Universe in the far-infrared and submillimeter region of the spectrum; building GLAST, a follow-on to the Compton Gamma Ray Observatory to observe the highest-energy objects in the Universe; and initiating a program to develop technology for the next X-ray mission that would follow AXAF. These efforts support a balanced program addressing each of the four quests that form the Space Science Enterprise mission: Solving Cosmic Mysteries, Exploring the Solar System, Searching for Extrasolar Planets, and Searching for Life Beyond Earth.

Through continued exploration, NASA's Space Science Enterprise brings the benefits of Space Science to the American public and to the worldwide scientific community. The primary products of Space Science are knowledge and discoveries about the Universe in which we live. The process by which we acquire knowledge and make discoveries is through exploration. Whether physical, using space probes and planetary landers and orbiters, or remote, using telescopes and other observatories, our exploration will continue opening the frontier of space in exciting and productive ways. We strive to make the wonders of the Universe accessible and relevant for all Americans.

EARTH SCIENCE

This is an exciting time for the Earth Science Enterprise, formerly known as Mission to Planet Earth, because we soon begin the Earth Observing System or "EOS" era. With launches of EOS–AM–1 and Landsat-7, we will begin to collect the necessary data to answer many critical questions about the Earth. We will launch the QuikScat mission late this year, using a "faster, better, cheaper" development approach to replace valuable ocean winds data set lost with the failure of Japan's ADEOS spacecraft. With EOS, we seek to understand how land and coastal regions are changing over time, how to forecast precipitation a year in advance, how to determine the probabilities of floods and droughts, how to predict changes in the Earth's climate a decade to a century in advance, and monitoring ozone depletion to determine if efforts to control harmful chemicals are effective.

The President's budget request for Earth Science for fiscal year 1999, $1.372 billion, will also enable the Earth Science Enterprise to increase research funding for our Commercial Remote Sensing program and grants funding. We will endeavor to form an industry-Government collaboration on a low-cost, high-performance radar mission that will produce quality science data to enhance understanding of floods, earthquakes, and sea level rise while at the same time contributing to valuable applications such as managing forests, measuring soil moisture, and finding potential oil and coal reserves.

We are developing a series of light-weight, low-cost science missions, Earth System Science Pathfinders: the first will measure the three-dimensional structure of the Earth's vegetation cover, and the second will provide a new model of the Earth's gravity field which in turn will enable more precise studies of ocean circulation and ice sheet changes. We are also demonstrating next-generation technologies as part of NASA's New Millennium Program, a series of small, rapid development missions to flight test promising new instruments. For the first mission, which is scheduled to fly in 1999, we are developing an advanced land imager and for the second mission we will demonstrate technology to improve weather forecasting abilities.

The success of these small missions is part of the new paradigm of the Earth Science Enterprise, which focuses on front-end technology development investments that will lead to smaller, lighter, and less costly missions which will not compromise the program if a satellite is lost. Another component of this paradigm involves a "catalogue" of procurements of commercial spacecraft buses which will lead to lower

costs and quicker development. We are in the process of defining the next series of Earth Science missions based on this new paradigm: our scientists and technologists are working side-by-side to provide the science we need using the latest technology.

While we look forward to the future of NASA's Earth Science Enterprise, we are producing valuable data today. While the effects of El Niño are apparent to us all, we need to recognize the valuable role that a joint NASA-French satellite (TOPEX/Poseidon) played in the monitoring of the warm water mass in the tropical Pacific six months before it began to affect the weather of the Americas. We launched a joint mission with the Japanese (TRMM) a few months ago to make precise measurements of rainfall in the tropics, which is critical in the understanding of the Earth's climate. Also last year, a private company launched a satellite to provide scientific data on life in the oceans which NASA will purchase from them—data which this company will also sell to the fishing, oil, and shipping industries.

The critical system required to capture the raw data from these missions, process it into geophysical parameters for scientific research, and provide the necessary distribution and archival functions, is the EOS Data and Information System (EOSDIS). Central to the development of this system is the development of the scientific algorithms to enable the conversion of the raw data into geophysical parameters. The development and delivery of these algorithms is on-track, as is the calibration/validation effort that supports it. The science data processing aspects of this system are being developed in increments, allowing us to better determine the performance of our contractors, while also obtaining the approval of the scientific users along the way. At the same time, we are opening up the future implementation of this system to innovative thinking from experts within NASA, academia, and industry across the country. In this way, the American people can be assured that we get the maximum use possible from the data to be provided from these groundbreaking missions.

As in all R&D efforts, unexpected events occur which sometimes cause delays. There are difficulties with the power supply of Landsat-7 which will delay the launch until early next year. The Flight Operations Segment of EOSDIS for AM–1, which is designed to control operations of the major EOS spacecraft, has experienced software problems which will delay the launch of AM–1 at least until the end of this year. While such setbacks are a disappointment, we have every confidence that these problems will be solved quickly and decisively. With the launches of these two spacecraft, we will collect the data necessary to enable future discoveries and advances in Earth Science.

In addition to great science, the Earth Science program is providing direct, practical benefits to the American people. Farmers and commodity traders are able to detect healthy vegetation based on a continuously updated "green report." NASA data is also being used to demonstrate the beneficial effects of urban forests which lessen the impact of "urban heat islands," bubble-like accumulations of hot air, that have developed as cities have grown during the past 20 years. Sport and commercial fishing fleets are using NASA data to more efficiently locate areas with the best fishing potential, such as locations with certain temperatures and water clarity characteristics.

With the help of NASA science data, a private firm is providing solar power cheaply and efficiently for people of the world without electricity who may spend the entire day searching for fuel. In 1996, 88,000 wildfires burned over 6 million acres at a cost of over $1 billion in fire control activities. NASA data has been used to develop a series of fire potential maps in the western U.S. to assist firefighters in fire planning and assessment. Municipalities across the country will soon be able to manage their tax mapping and building permit process by comparing current digital aerial photography and high resolution satellite imagery with that from prior years, using sophisticated computer "change detection" software. NASA data is also being used to create "Nowcast" weather forecasts to assist drilling in the Gulf of Mexico. Drilling activities cannot proceed in currents stronger than 2 knots, because of the difficulty in dynamic position-keeping as well as the stresses imposed on the drill itself as it extends through the water column. Accurate, localized weather forecasting reduces the cost of drilling operations.

But this is just the beginning of a growing commercial remote sensing industry that will grow and mature in the next century. Earth Science data from future NASA missions will not only allow us to answer critical questions such as climate change and natural hazards, but will also spur the development of commercial uses of scientific data. This data will assist farmers in measuring crop yields and assessing soil conditions. Foresters will be able to measure timber health and assess fire hazards. The fishing industry will be able to monitor ocean winds and determine ocean plant and sediment concentrations. Insurers will be able to assess damage

caused by floods, droughts, landslides, and beach erosion as well as use improved weather forecasting to mitigate damage.

We are proud that we can provide these types of benefits to the global community while achieving our mission to collect and analyze scientific data concerning the Earth. With the start of the EOS era, we will begin to more comprehensively address critical questions about the Earth that will benefit us all.

AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY

NASA's Aeronautics and Space Transportation Technology Enterprise is revolutionizing the science and technology that sustain global U.S. leadership in civil aeronautics and space transportation. Our program is focused on three "Pillars" for success—Global Civil Aviation, Revolutionary Technology Leaps, and Access to Space—and a set of ten enabling technology goals to address current and future National needs. By developing pre-competitive, long-term, high technical risk technologies, we contribute to market growth, safety, increasing air system capacity, consumer affordability, environmental compatibility, and opening new opportunities in space. Because our work must be transferred to industry and other Government agencies to meet these National goals, we work in close partnership with these groups in formulating and implementing our programs. The Enterprise includes three major program areas: aeronautics, space transportation technology and commercial technology. The President's budget request for Aeronautics and Space Transportation Technology for fiscal year 1999 of $1.305 billion will enable us to aggressively pursue our technology goals in space and aeronautics.

The Aeronautics program focuses on the long-term safety, efficiency, and environmental compatibility of aircraft and the systems in which they operate.

We have restructured the Advanced Subsonic Technology (AST) program in order to aggressively address the goals of the "Global Civil Aviation" and "Revolutionary Technology Leaps" pillars. We have realigned the previous eight program elements into five: safety; environment; capacity; affordability; and general aviation. By working in partnership with the FAA and the U.S. aeronautics industry, we ensure that the high-payoff technologies we develop will be used to enable a safe, highly productive global air transportation system that includes a new generation of environmentally compatible, operationally efficient U.S. subsonic aircraft. In 1997, we successfully demonstrated cockpit systems for landing and aircraft rollout and taxiing at Atlanta Hartsfield Airport. These systems aid pilots in viewing the runway and taxiways during night or adverse weather, improving airport safety and capacity. We also tested advanced fuel injectors, which in laboratory tests demonstrate a greater than 70 percent reduction in nitrogen oxide pollutants. Other tests showed three-decibel fan and jet noise reduction and a 25 percent nacelle acoustic liner improvement; combined with additional NASA research in airframe noise reduction these advances may result in future technologies that could reduce perceived noise levels at the nation's busiest airports by 50 percent.

The High-Speed Research (HSR) program, a key contributor to "Revolutionary Technology Leaps," is making tremendous progress in addressing the high-risk, make-or-break environmental and economic "barrier issues" associated with any future High Speed Civil Transport (HSCT). Successful U.S. leadership in this next-century market could mean a difference of $200 billion in sales and 140,000 high-quality jobs for domestic aircraft manufacturers. In 1997, we completed initial External Vision System flight tests, including 90 approaches and landings in day and night on the NASA 737 research vehicle. These tests are important in developing future synthetic vision technologies for pilots so that a future HSCT would not require a drooped nose such as today's Concorde. Synthetic vision technologies may also have a safety benefit to subsonic commercial pilots by providing additional visibility in adverse weather, and may find application in a future reusable launch vehicle. In another advance, HSR researchers fabricated advanced titanium 4 and 5 sheet Superplastic Forming and Diffusion Bonding panels. If this technology is applied to a future HSCT, it will dramatically reduce aircraft weight, increasing performance and affordability.

Building on the successful results in the existing HSR program, we are proposing an extension beyond Phase II, Phase IIA. Beginning in fiscal year 1999, HSR Phase IIA will focus on answering some of the remaining technology questions for a viable, economical and environmentally sound HSCT. Our first priority is propulsion, but as our confidence grows in that area, we will pursue additional airframe work as well.

We continue to invest in the Aeronautics Research and Technology (R&T) Base, which is the vital foundation of expertise and facilities that meets a wide range of aeronautical technology challenges. By providing a high-technology, diverse-dis-

cipline environment, we enable the development of new, even revolutionary, aerospace concepts and methodologies for applications in industry. We are doing exciting things in the R&T Base. In 1997, NASA's solar-powered aircraft Pathfinder set an altitude record for propeller-driven flight of over 71,500 feet. This type of technology will enable high-altitude, long-endurance for affordable, unpiloted science missions. Also in 1997, we successfully completed a critical design review of the Hyper-X launch vehicle, which will begin flight testing in January, 2000 and is the essential next-step for airbreathing hypersonic flight. Work within the R&T Base also lays the foundation for future focused programs to address the long term goals of the Enterprise's three pillars. For example, in fiscal year 1998 and fiscal year 1999, NASA's efforts to achieve the goals of the Administration's Aviation Safety Initiative are supported from reinvestments made within the R&T Base. We anticipate that in fiscal year 2000, as technologies for safety advance, a new focused program for safety will emerge.

NASA is an integral part of the multi-agency Large-Scale Networking and High-End Computing and Computation (LSN/HECC) program, aiming to boost supercomputer speeds one thousand-fold to at least one trillion arithmetic operations per second—one teraflop—and communications capabilities one hundred-fold. As part of this program, NASA is one of several agencies making contributions to the Next Generation Internet (NGI). NGI allows NASA essentially to "live in the future" in emerging applications such as advanced aerospace design and test, telemedicine, earth sciences, astrobiology, astrophysics and space exploration. This effort is also funded in the Space Science, Earth Science and Education programs.

The Advanced Space Transportation Technology program supports our "Access to Space" pillar. Our goal is to completely revitalize access to space by reducing launch costs dramatically over the next decade, increasing the safety and reliability of current and next generation launch vehicles, and establishing new plateaus of performance for in-space propulsion while reducing cost and weight.

NASA is taking the lead in developing the technology for next generation reusable space transportation systems. The fiscal year 1999 Reusable Launch Vehicle (RLV) Program includes both ground-based technology development and flight demonstrators—the X–34 small reusable demonstrator and the X–33 large-scale Advanced Technology Demonstrator. Each portion of this program contributes to the process of validating key component technologies, proving that the technologies can be integrated into a functional vehicle, and demonstrating the required operability to make low-cost access to space a reality. We are requesting funds to initiate the Future-X "Pathfinder" flight experiments for demonstrations of technologies which can further reduce the cost and increase the reliability of reusable space launch and orbital transportation systems.

The Advanced Space Transportation Program (ASTP) focuses on technological advances with the potential to reduce costs beyond RLV goals, as well as technology development required to support NASA strategic needs not addressed by RLV. The ASTP includes a base of technology investments which, like the Aeronautics R&T Base, lays the foundation for future focused programs. Each element of the ASTP addresses a recognized need for near- and long-term reductions in space transportation costs by taking bold steps forward in innovative technologies and vehicle configurations. The Advanced Space Transportation Program also includes funding for industry-led trade studies of options for the next-generation launch decision at the end of the decade. We want smart people outside the Agency to help us make the right decision, because America's future in space is at stake.

An important part of the Aeronautics and Space Transportation Technology Enterprise is the Commercial Technology program, which serves the entire Agency. Since its inception in 1958, NASA has been charged with ensuring that NASA-developed technology is transferred to the U.S. industrial community to improve its competitive position in the world community. Our commercialization effort encompasses all technologies created at NASA centers by civil servants as well as innovations from NASA contractors. The technology commercialization program consists of conducting a continuous inventory of newly developed NASA technologies, maintaining a searchable database of this inventory, assessing the commercial value of each technology, establishing R&D partnerships with industry for dual use of the technology, disseminating knowledge of these NASA technology opportunities to the private sector, and supporting an efficient system for licensing NASA technologies to private companies. The amount requested for NASA commercialization efforts includes $100 million to carry out the provisions of the Small Business Innovation Research (SBIR) Act, which requires a set-aside of 2.5 percent of NASA's total extramural R&D spending for small business research grants, along with an additional set-aside for the Small Business Technology Transfer (STTR) Program of 0.15 percent of NASA's total extramural R&D spending. The NASA SBIR program has con-

tributed to the U.S. economy by fostering the establishment and growth of over 1,100 small, high technology businesses.

Taken together, this Enterprise provides powerful fuel for advances in aeronautics and space transportation, leading the Nation in a position of strength into the next century.

CONCLUSION

Mr. Chairman, NASA's vision statement begins "NASA is an investment in America's future." For 40 years we have provided our country and the world with startling scientific discoveries and ground-breaking new technologies that have enriched our lives, expanded our horizons and fueled our imaginations. NASA is committed to upholding this tradition in the next 40 years.

We will explore new worlds as well as gaining a better understanding of our own fragile planet. We will help make air travel safer and faster. We will reduce the cost of access to space, and open new doors of opportunity for research and technology in Earth orbit. We cannot predict exactly what we will learn and accomplish in the next 40 years, but we know from past experience it will exceed our expectations.

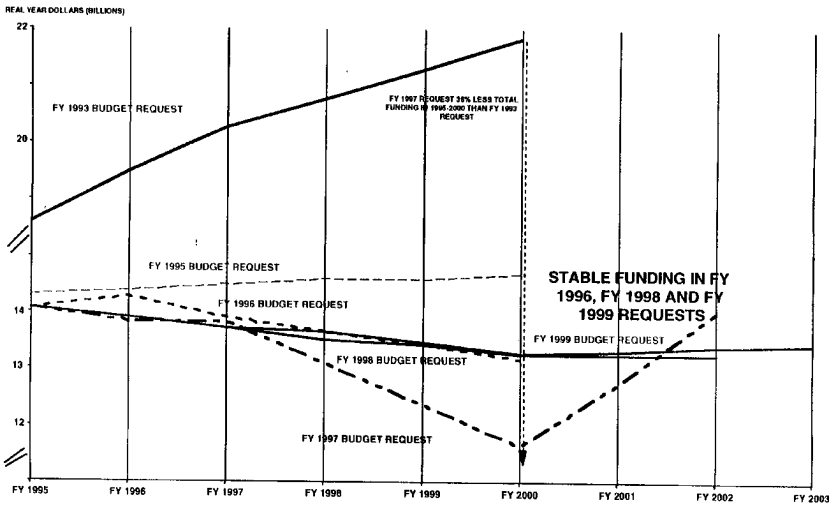
The future begins now. This year, we will all have the opportunity to stand together as proud Americans, along with our Russian, Japanese, European, and Canadian friends, as the conceivers and managers of the largest international science and technology program ever attempted, and look into the night sky at a tiny speck of light streaking from west to east at some 17,000 miles per hour. This will be the awesome sight of the first elements of the International Space Station. I look forward to that night as I hope you do.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION—FISCAL YEAR 1999 ESTIMATES

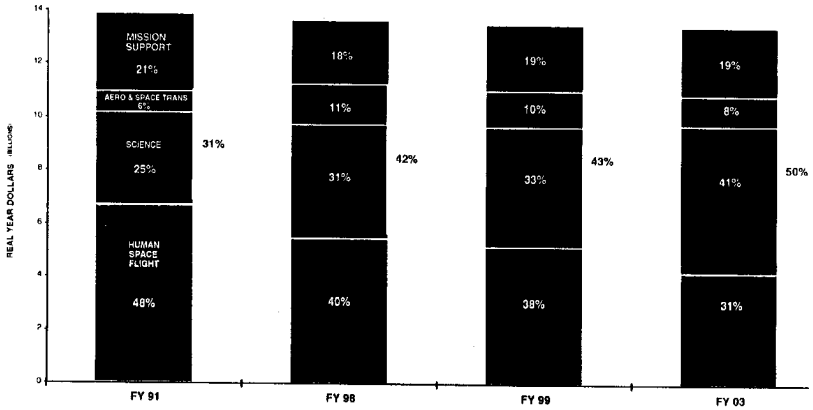
[In millions of real year dollars]

	1997 past year	1998 current year	1999 budget year	2000	2001	2002	2003
SPACE STATION	2,148.6	2,501.3	2,270.0	2,134.0	1,933.0	1,766.0	1,546.0
US/RUSSIAN COOPERATIVE PROGRAM	300.0	50.0	.....	.....	.....	.....	.....
SPACE SHUTTLE	2,960.9	2,922.8	3,059.0	2,998.0	3,049.0	2,989.0	2,989.0
PAYLOAD UTILIZATION AND OPERATIONS	265.3	205.4	182.0	180.0	174.0	175.0	180.0
HUMAN SPACE FLIGHT	5,674.8	5,679.5	5,511.0	5,312.0	5,156.0	4,930.0	4,715.0
SPACE SCIENCE	1,969.3	1,983.8	2,058.4	2,207.4	2,308.4	2,387.4	2,568.4
LIFE AND MICROGRAVITY SCIENCES AND APPLICATIONS	243.7	214.2	242.0	257.0	266.0	264.0	264.0
EARTH SCIENCE	1,361.6	1,367.3	1,372.0	1,492.0	1,494.0	1,449.0	1,407.0
AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY	1,339.5	1,470.9	1,305.0	1,092.0	1,026.0	1,057.0	1,071 0
MISSION COMMUNICATION SERVICES	418.6	395.8	380.0	382.0	382.0	380.0	380.0
ACADEMIC PROGRAMS	120.4	120.0	100.0	100.0	100.0	100.0	100.0
FUTURE PLANNING (SPACE LAUNCH)	.....	.....	.....	.....	150.0	280.0	330.0
SCIENCE, AERONAUTICS AND TECHNOLOGY	5,453.1	5,552.0	5,457.4	5,530.4	5,726.4	5,917.4	6,120.4
SAFETY, MISSION ASSURANCE, ENGINEERING AND ADVANCED CONCEPTS	38.8	37.8	35.6	35.6	35.6	39.6	39.6
SPACE COMMUNICATION SERVICES	291.4	194.2	177.0	136.0	125.0	151.0	121.0
RESEARCH AND PROGRAM MANAGEMENT	2,078.5	2,033.8	2,099.0	2,079.0	2,087.0	2,171.0	2,254 0
CONSTRUCTION OF FACILITIES	155.3	122.4	165.0	165.0	165.0	165.0	165.0
MISSION SUPPORT	2,564.0	2,388.2	2,476.6	2,415.6	2,412.6	2,526.6	2,579.6
INSPECTOR GENERAL	16.8	18.3	20.0	20.0	20.0	20.0	20.0
TOTAL	13,708.7	13,638.0	13,465.0	13,278.0	13,315.0	13,394.0	13,435.0

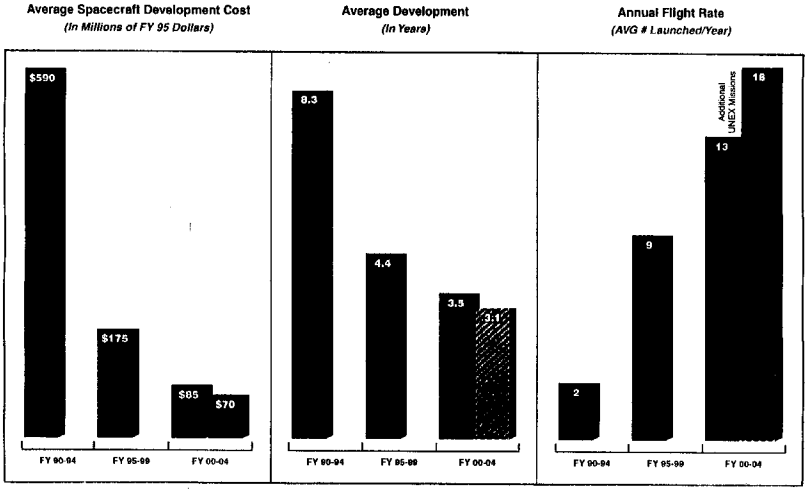
FY 1999 PRESIDENT'S BUDGET*



FY 1999 BUDGET*

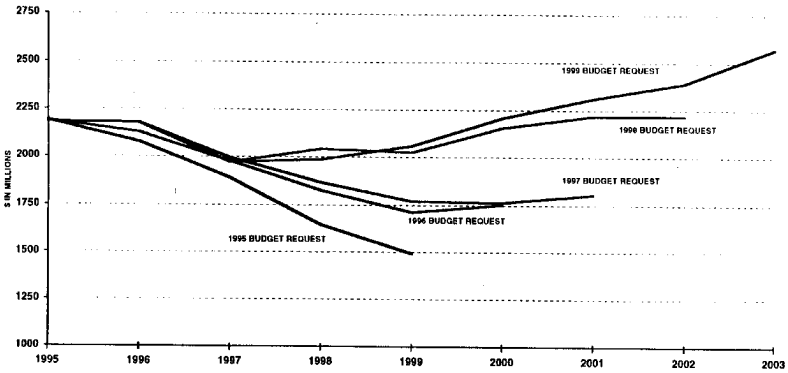


Total NASA Earth and Space Science
Faster, Better, Cheaper



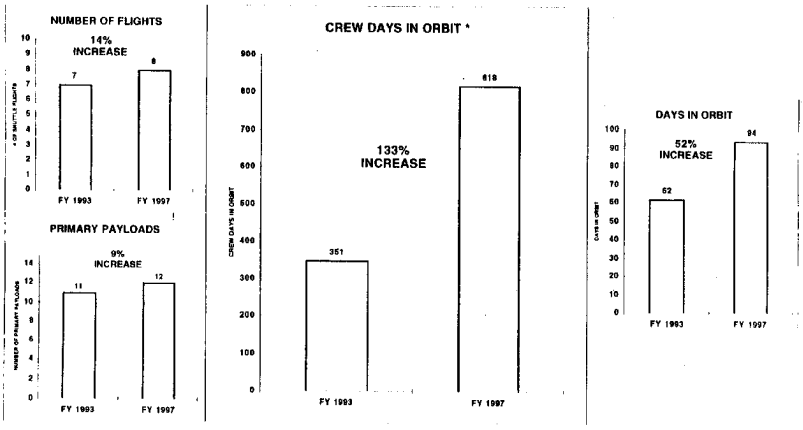
* Less expensive launches enable additional UNEX flights

FY 1999 BUDGET
SPACE SCIENCE BUDGET REQUEST*

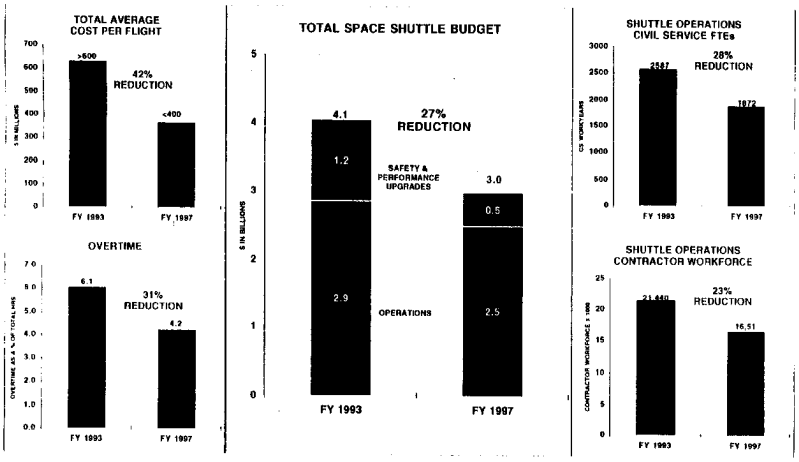


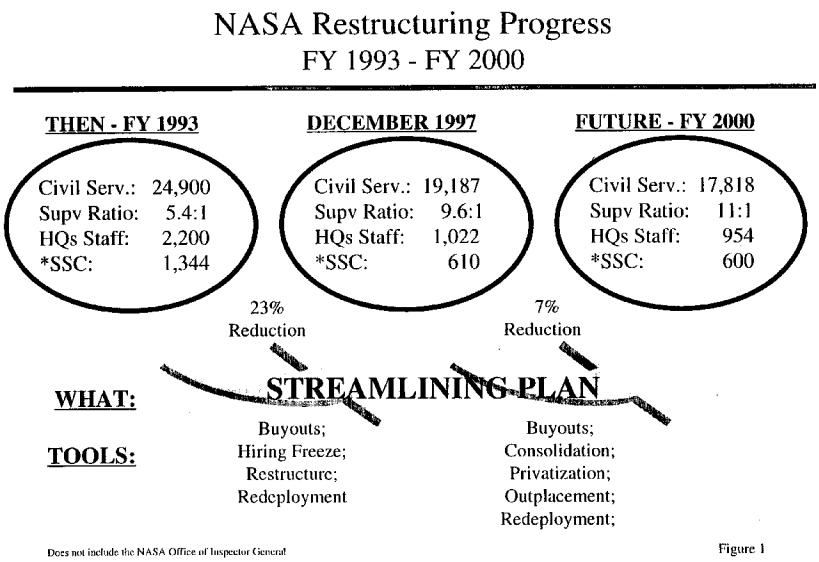
* FY 95-97 REQUESTS ADJUSTED TO REFLECT TRANSFERS OF ELV, HPCC AND CROSSCUTTING TECHNOLOGY PROGRAMS TO OSS BUDGET

SHUTTLE DELIVERING MORE FOR THE MONEY



GREATLY REDUCED SHUTTLE COST





SPACE STATION TOTAL COST

Senator BOND. Thank you very much, Mr. Goldin.

According to NASA, the space station is to go from a total cost of $17.9 billion to $21.3 billion at completion. In addition, according to press reports on the Chabrow independent cost assessment, costs could go to some $24 billion and take 10 to 38 months longer than NASA anticipates. There has long been a symbolic cap on the space station program, a total development spending of $17.4 billion, with annual expenditures of $2.1 billion.

Now, assuming that Congress and the administration were to enforce the yearly cost cap, how many more years would it take to complete the space station and what will be the total cost at the end of the development phase? What would be the impact on our international partners?

Mr. GOLDIN. I do not know that I could answer it off the cuff, but I would say that there would be a significant impact in schedule measured to the tune of 1 to 2 years.

In terms of impact on our international partners, the partners in Canada, Japan, and Europe have already expended almost $5 billion, and they are on track to deliver their hardware on time. In fact, the Canadian arm is almost done and it will be ready for delivery pretty soon. So, it would have a significant impact.

With regards to the Russians, I think it would even have an impact on the Russians too because it would stretch it so far downstream.

Senator BOND. Can you tell us today definitively that except for contingencies that may be introduced by Russian performance slippage or nonperformance, the space station can be completely built for $21.3 billion, including all hardware, software, scientific facilities, outfitting flights, and utilization flights that now appear in your last year's September 30, 1997 assembly sequence?

In other words, does NASA's fiscal year 1999 budget request anticipate the new $21.3 billion funding target for the space station, or do you expect to restructure these funding targets over the next 5 years and request additional funding?

Mr. GOLDIN. First let me say in response to issues raised by this committee in last year's hearings, we talked to the administration. We did an internal review and we found that we saw a cost growth of about $1.6 billion, which was included in the fiscal year 1999 budget.

That cost growth was broken up into two parts: $900 million in overrun, which was lack of performance by our contractor, and that was about 5 percent of the total value of the program. And then we made a decision to add about $700 million for a crew return vehicle because we had experiences with the Shuttle Mir that indicated our approach to crew return using Russian vehicles would not be adequately safe. So, we added that to the program in a conscious effort because we felt safety was important.

We, with the exception of the Russians, are on track to have six-person occupancy of the space station by November 2002. At that time, we will have 80 percent of our research equipment and we will be ready to really start the operational phase. In fact, at that point in time, only 20 percent of the space station budget will be associated with development and 80 percent will be operations. So, in our minds, we have a very good chance of doing it. The issue and the variable is what will the Russians do.

If you use that point with a six-person habitability, because we added a third node and that gives us the habitation, we believe, for the most part, development will be done by then. In fact, by the end of 1998, we expect 80 percent of our hardware work to be done. In fact, at the Cape, we will be ready to launch the node and the payload mating adapters on time. We are within 6 weeks of the laboratory schedule and all the other hardware appears on time.

The number of $21.3 billion is a number that we have talked to the GAO about. That assumes that there is no research done between November 2002 and December 2003, so there is an additional amount of money put in for that schedule time, giving no credit for the research that is being done.

But those are the numbers that we believe and the big variable to us is the Russian activity. However, I have had 14 hours to review the Chabrow report. We take it very seriously, and within 30 days, we will get back to this committee on what we believe. And if we believe we need more resources, we will so state.

STATUS OF BOEING CONTRACT

Senator BOND. Let me just ask before I turn to my ranking member. You have mentioned the Russian problems. What is the status of the Boeing contract with regard to the development of the space station? We have heard about cost overruns, $600 million, $800 million. How will these costs be covered and is Boeing required to absorb these costs?

Mr. GOLDIN. We have seen substantial improvement by Boeing, in part, as the result of these hearings that we had last year. They have made major restructuring to their organization. They have

brought in outstanding people, and for the last 6 months, we have been very, very pleased with the progress they have been making.

I did not get the second part of the question.

Senator BOND. The cost overruns.

Mr. GOLDIN. Yes; Boeing estimated last year at this time about a $600 million overrun. We were concerned that it was too low, so our reserves carry up to $817 million for a Boeing overrun.

Senator BOND. And will they be required to absorb any of those costs?

Mr. GOLDIN. It is a cost type contract, but their overrun is reflected in the profit that they will make. If you will recollect, last year at this time, they received a zero award fee, and I think they responded in a very professional manner to that rating.

Senator BOND. Thank you, Mr. Goldin.

Senator Mikulski.

RUSSIAN COMMITMENTS

Senator MIKULSKI. Thank you, Mr. Chairman.

Mr. Goldin, I would like to pick up on the issue related to the space station. I am sure Senator Bumpers will ask additional funding questions. Mine goes directly to the Russians: No. 1, their ability to keep their commitment in this post-Chernomyrdin era; and also, No. 2, what they are doing to really honor their commitment that they are not continuing a relationship with Iran to spread the technology ability to manufacture—the missile technology to deliver weapons of mass destruction.

Now, when the Russians and the United States got involved together in the space station—and I was the prime mover of that—it was in a post-cold war atmosphere to make best use of the Soviet space technical ability, which is considerable, and, at the same time, show that it was a new world order in terms of this.

Now, where are we? Where we are is the Russians do not pay the bill internally, and No. 2, we have to continue to develop a duplicate system for them. This is not good.

And here is my question. Based on space news reports that the Russians—that you have a 10-week delay in terms of the station launch because of the Russian problem. The Russian problem seems to stem from the fact that the Russian Government still has not paid the contractors building the country's space station hardware and that most of the $79.5 million allocated by the Russian parliament has not been delivered.

I understand that you were told that that money would be paid to those contractors by mid-April. It is now near the end of April.

My question to you, has the Russian government actually paid their bills internally and kept their commitment to us, and do you believe the Russian government will continue to do that or, as is reported, that they will continue to face, No. 1, unpaid bills internally, No. 2, that they are going to cut their own budget, and No. 3, they ultimately will continue to fall behind? And should we then begin to develop other strategies both diplomatic and in terms of space science?

Mr. GOLDIN. Let me start with the last part of your question. Mr. Rothenberg and a team is going to leave tomorrow for Russia to review exactly what the status is technically and financially. Some-

time mid-to-late next month, I will be having a meeting with the leadership of the Russian space community. We will then meet with our international partners at the end of May, confer with the administration, and we will have a very specific position on what direction we ought to go based on that information. That is the process.

Second, where are they? At the Gore-Chernomyrdin meeting, we felt we had a resolution of the funding situation and then Mr. Chernomyrdin was fired from his position and the Russian government fell apart. In the vacuum of not having a new government, I do not believe we made progress with but one exception. They have sent $15 million more since the time I had talked to you, but that is woefully inadequate from our position, that they should have completed the funding of the full $79.5 million.

The Russian government will either form or not form on Friday of this week. There is very significant communication at the highest levels of our Government and the Russian government on this issue. In fact, last week the State Department brought a very significant message to President Yeltsin. Within 1 to 2 weeks of the formation of the new government, within this timeframe of our process, I believe we will be able to answer your question.

With regards to missile technology, there has been an intense——

Senator MIKULSKI. Would—well, go ahead. Go on with the missile technology because that is all part of the same story here.

Mr. GOLDIN. Yes; there has been an intense effort during this past year at the highest levels of government to strengthen our position with the Russians. The Russians took action and the Russian government strengthened their approach with a new export control process that is very, very good. We like it.

Now, while NASA is not directly involved in these important discussions, I have frequently and continually emphasized to Mr. Yuri Koptev how crucial it is that his agency adhere to the missile technology control regime and their support contractors. There are new discussions going on right now in Russia and I understand they are going well and I am hopeful they will be resolved. But at this point in time, further discussion needs to be referred to the National Security Council and the State Department, as NASA is not a player in this.

Senator MIKULSKI. Well, Dr. Goldin, I know that I raise the issues that are at a very serious level at the highest diplomatic levels of our Government. I would like to just comment about the station and then about the Iranian missile technology issue.

RUSSIANS HONORING THEIR SPACE COMMITMENT

First of all, I really want to insist that the crisis that now is maturing and even deepening over the Russians honoring their space commitment needs to be not only addressed through an evaluation. We continue to go talk to the Russians to see where we are. Then we find out where we are, and then that is where we are. We need to talk about the progress.

What I think the committee will look forward to hearing is the assessment led by Mr. Rothenberg, what will happen to the Russian government on Friday. But Secretary Albright and the Na-

tional Security Council, as well as Cohen, need to know the results of this because this is now moving beyond a space station problem, though it is very difficult to ask the American taxpayer to pay double dutch, one in paying for a duplicative system and then paying and being involved with the Russians in terms of being able to deliver on their part of the bargain. We can only pay for the space station once. We cannot pay for it twice and then not get what we are paying for.

Now, it is my observation with my colleagues and with myself we are running out of patience here. There is always one more promise and then there is one more crisis and one more promise. I think that we are really now—quickly in this appropriations, we could move to a crisis. I do not want to see a crisis either related to diplomacy, the ability of the space station to continue, and the leaching that is going on in our own budget.

IRANIAN MISSILE TECHNOLOGY

Second, in terms of the Iranian missile technology, I know that this is not the forum to go into that in detail. But this then must be addressed at the highest level. One of the reasons we encouraged the Russians to work with us is that the future belongs to the West. If they then want to fund enemies of the United States of America, be duplicitous in really providing direct and specific information to build enhanced capability of weapons of mass destruction, we have got a major diplomatic crisis on our hands.

I look forward to hearing more about that in another forum, but if the Russians do not deliver on the station, how in the hell can we believe that they are going to deliver on Iranian missile technology?

Now, I know the Secretary of State talks with the Prime Minister of Russia—talks with the Russian government about three times a week. She assured us that at a democratic crisis. I am going to put this on the agenda. When you come back, we are going to put this on the agenda, when Joe comes back, because this could sink the space station.

Mr. GOLDIN. I understand.

Senator MIKULSKI. This could sink the space station and it could also create a very serious diplomatic situation. I would like to play a constructive role in both. I think there has to be a real sense of urgency and a real acknowledgement of what the stakes are, and I know you have it.

So, anyway, I know my time is up, and I have other questions.

Senator BOND. Thank you very much, Senator Mikulski, for raising the questions which trouble all of us. I think you are right on point in raising those questions. We do have serious concerns about it.

Now, it is my pleasure to turn to Senator Bumpers for his questions.

CHABROW REPORT

Senator BUMPERS. Mr. Chairman, let me say, first of all, yours and Senator Mikulski's questions are very thoughtful. You have obviously tuned in to the same information I have and are concerned about it, and I appreciate that very much.

Mr. Goldin, did I understand you to say that you have only had the Chabrow report 14 hours?

Mr. GOLDIN. Yes, sir.

Senator BUMPERS. We got most of that off the Internet a month ago.

Mr. GOLDIN. This is the final report and I was waiting for the final report——

Senator BUMPERS. You have not seen the charts that were on the Internet?

Mr. GOLDIN. I looked at the final report. I was waiting for the NASA Advisory Council to review it, comment on it, and then I reviewed the final report last night.

Senator BUMPERS. On page 1 of that report, this is what the Chabrow report says, ''The program's size, complexity, and ambitious schedule goals were beyond that which could reasonably be achieved within the $2.1 billion annual cap, or $17.4 billion.'' So, they start off saying the $17.4 billion was never realistic.

Let me also say, Mr. Goldin, this report has some exculpatory information in it too. They say there are no show stoppers. All these programs are subject to overruns. They are immensely complex. And they are not blaming anybody in particular. There is certainly no malfeasance, none of that. That is not what we are talking about. But they say that the promises were not realistic in the first place.

Then they say, ''The fiscal year 1999 budget submission to Congress is not adequate to execute the baseline ISS program to cover normal program growth and address the known critical risk. Additional annual funding of between $130 million and $250 million will be needed. Completion''—and this is really key. ''Completion of the international space station assembly is likely to be delayed from 1 to 3 years beyond December 2003.'' If the Chabrow report turns out to be correct, we could be looking at a 2006 completion date. I assume that you saw that in your perusal of the report.

Mr. GOLDIN. Yes; I did.

Senator BUMPERS. And then I am sure you also saw their cost projections, which are at such considerable variance from the figures we have always been given by NASA—Senator Bond alluded to this earlier. The $17.4 billion never was realistic, and you have heard me on the Senate floor screeching about that for some time.

But in any event, you have asked for budgeting now in contemplation of a $21 billion completion, not $17.4 billion, but $21.3 billion. Now, the Chabrow report says $21.3 billion is not realistic. As a matter of fact, they say the figure should be $24.756 billion.

Now, we are still looking at a 2005–6 completion timeframe. We are looking at over $7 billion, or a 30-percent cost overrun, to complete the assembly of the ISS, and Lord only knows what will happen between now and then.

What is your comment for this additional cost overrun? We heard about $3 billion not too long ago. The Los Angeles Times I think wrote the story and then everybody began to talk about it. And now we have the Chabrow report which adds another $3 billion plus, and we are looking at cost overruns of well over $7 billion.

Mr. GOLDIN. First, I want to say that I think there was an outstanding team on the Chabrow group. They worked very, very

hard, and they were very, very thorough. I also want to point out that when we noted the problems last spring, I personally asked that this be done. The next point I would like to make is the vest committee, when we went forward with the redesigned space station, we believed that the $17.4 billion number was real, and I do not take issue with this panel's makeup looking backward. But I do not want to give you the impression that we did not believe in that $17.4 billion number when we went forward. In fact, some of the members of the Chabrow panel were also members of the vest committee when we went forward with the $17.4 billion. Now, there could be disagreements, but the important thing for you to understand is we really believed it.

The next point I would like to make. We have had issues and problems with the Russians, and one of the major issues that we have had is that we assume we get a $2 billion savings from the Russians and because they have not paid their bills, we have been impacted by almost $2 billion which ate up a significant portion of our reserves.

Senator BUMPERS. If you will pardon me for interrupting, you ain't seen nothing yet.

Mr. GOLDIN. When we look at the overall program, we have made great progress. I have confidence to a high level on our part.

Now, Mr. Chabrow has suggested we put in additional reserves above those we have. Based upon what I saw last night, I have directed Mr. Rothenberg to look at what level reserves we should have, if our reserves were adequate. Mr. Chabrow's main concern was if you do not spend the money that is needed now, it could lead to much bigger problems downstream with regards to cost and schedule. We are going to evaluate that, and as I indicated, in 30 days we will be ready to report out to this committee.

PROCEEDING WITH THE SPACE STATION

Senator BUMPERS. Mr. Goldin, let me interrupt you. My time is almost up and I have a couple of questions I want to ask you.

Do you have a figure in mind beyond which you think we should not proceed with the space station? Is there any cost figure that to you would make it really unwise to proceed with it? Any figure that would make it implausible to continue with it, $50 billion, $100 billion,?

Mr. GOLDIN. I do not feel at the present time I could answer that question off the cuff.

Senator BUMPERS. Let me ask another question with your indulgence, Mr. Chairman.

Senator BOND. Senator Bumpers, after conferring with my distinguished ranking member, we have decided to give you a special dispensation. [Laughter.]

SPACE STATION LAUNCHES

Senator BUMPERS. Well, I would have pursued those others a little longer if I had known that.

But let me ask you this. How many launches is it going to take to deploy the space station?

Mr. GOLDIN. I believe 47. That is correct.

Senator BUMPERS. 47?

Mr. GOLDIN. Yes.

Senator BUMPERS. How many of those are Russian?

Mr. GOLDIN. I think about 13 to 15.

Senator BUMPERS. I am talking about assembly and logistics flights in deploying the space station. How many flights is that going to take?

Mr. GOLDIN. 47.

Senator BUMPERS. And how many of those are Russian?

Mr. GOLDIN. I believe 13 to 15. They are trying to validate that number now.

Senator BUMPERS. What kind of degree of confidence do you have that they will be able to do that?

Mr. GOLDIN. The Russians have an outstanding capability, and, in fact, had we not had the Shuttle Mir, we could not do what we are doing. The only issue is will the Russians fund the Russian Space Agency, and that issue is being taken up by the senior levels of this administration. If the Russians commit to that funding, I believe we will be able to do it with a very high degree of probability.

RUSSIAN DELAYS INCREASES COST OVERRUNS

Senator BUMPERS. You would agree that every time the Russians delay, every time the timeframe on completing ISS is moved back because of Russian delays, that increases the cost overruns, does it not?

Mr. GOLDIN. Yes; it does.

Senator BUMPERS. Now, here is a press release where the House Science Committee, chaired by James Sensenbrenner and his ranking member, met with Russian officials on this, and the Russian officials told him—and incidentally, we are talking with the Minister of Finance, the head of the Russian Space Agency, the Duma, and President Yeltsin's Space Advisor, whose name I cannot pronounce.

Mr. GOLDIN. Shaponikov.

Senator BUMPERS. But in any event, those officials told the House Science Committee that there will be likely delays on the launch of the first two space station elements. Now, we already knew—this was April 9. We have known since the last appropriation period that they were going to be late, but we were looking at a different timeframe. In June of last year, NASA put out a publication saying that the functional cargo block would be up by June 1998. We are now looking at August. Is that realistic, or do you know?

Mr. GOLDIN. I will not take a position on what that date is. The August date is not a date that is official that came out of our offices. We are going to review where they are and understand what the schedule is going to be. It could be delayed, yes.

SERVICE MODULE

Senator BUMPERS. On node one, the launch vehicle. Of course, that is the U.S. orbiter.

But let's see, on the service module, which is also Russian——

Mr. GOLDIN. That is the key element.

Senator BUMPERS. They are building it.

Now, last year we were told that that would be ready for deployment by December of this year. We are now looking at March 1999 apparently.

Mr. GOLDIN. We at NASA are carrying a 4-month pad on the service module delivery. So, if they are as late as 4 months, we can accommodate it within our program we believe. We are going to review this, and at the end of May/beginning of June, we will be able to take a firm position.

But I want to come back and go through what we have done so far. First, the Russians have performed very well when they had the funding. They are transitioning from communism to democracy, and they are having a very tough time, a very tough time. We are trying to work with them.

This is an issue of international leadership. The United States of America was asked by 16 nations to step up and lead this international group. I have been to Europe, Japan, and Canada, talked to our partners, and they are looking for United States leadership. This is a very, very tough problem, but we need to look very hard at this.

Another point I want to make is that in the midst of building the Mars Pathfinder, NASA selected Jim Martin, who was the biggest critic of the program, to oversee it and he said it could never be done. It would be impossible. We would have all these problems. And at the landing on Mars of that Mars Pathfinder, Jim Martin walked over to me and said, Dan, you did something at a tenth the cost and a quarter of the time. I did not believe it and I have to tell you you pulled it off. Now, we take on really tough stuff.

Another point I want to make to you is we have downsized this agency and turned back $25 billion to the American taxpayer already. We have trouble here. We are going to figure out how to work our way through it, and we are going to deliver a space station to the people of America and the world in a very responsible fashion.

SPACE STATION COST OVERRUNS

Senator BUMPERS. Mr. Goldin, I could not agree more with you on the last statement. Not to denigrate the U.S. Congress, I can tell you that you will fund the space station, but I can also tell you that the $7.3 billion cost overrun we are looking at right now is just the tip of the iceberg. But I can tell you we are not going to kill the space station. You have absolutely nothing to fear. I have been at this now for 7 or 8 years and this is my swan song. I am sure you hate to see me retire. [Laughter.]

Mr. GOLDIN. No; I would like to make a comment to you which I told you in the Senate at one point in time. Senator Bumpers, you make us operate better because you press into us and hold us accountable. I thank you——

Senator BUMPERS. I remember that conversation and I thank you very much. It is a compliment and I take it as one.

But on this I obviously believe that NASA and Congress are intent on building this space station regardless of the cost. My position all along is I have no objection to the space station. The Russians have had one-half dozen, maybe seven, up there from time

to time. In my opinion they have got nothing out of it. We are not going to get anything out of this to speak of.

For example, you could hire 5,000 scientists at the average rate that NIH hires scientists. You could hire 5,000 for the annual cost of operating the space station, and in my opinion you will get a hell of a lot more medical research out of that than you will out of the space station. That is my whole point. We all have some obligation to the taxpayers.

The Russians cannot afford this, Mr. Goldin. This is not just a temporary thing in Russia. They are struggling. They are having a terrible time. They are broke. They cannot do this. If they could do it, they would be doing it. They cannot do it and I see nothing on the horizon that says they are going to find the money to do it. I am not demeaning or denigrating their technical expertise. They obviously have some. I do not think it is nearly as sophisticated as ours, and I do not think you do either. All I am saying is we are putting an awful lot of faith in the Russians' ability to pay their share. It is not going to happen, and every time they default—and they are going to default a lot—the cost overruns go up and the American taxpayers are going to pick up the tab.

Mr. GOLDIN. I would just like to respond to a number of those points. First, I do not acknowledge or accept a $7 billion overrun at this point.

Senator BUMPERS. That is what the Chabrow report says. I do not know whether that is good or not.

Mr. GOLDIN. I do not know whether I want to accept that or not, and I will take time personally to take a position on that.

This is a team that was told by the President to cut its budget by 30 percent and our productivity went up 40 percent. We do what is impossible and I am not ready to give up or concede because I have such a pride in the people that work at NASA and our contractors.

Second, contrary to belief, when I came onto this program, I was a cold warrior and for 25 years I designed weapons aimed against Russia, and I thought they had nothing. I could testify, as one of the experts in space technology in the world, that the Russians have taught us more in the 3 years of the Shuttle Mir program in extended duration space flight than we have developed over a 20-year period, and that if not for the Shuttle Mir flights, we would not be able to do the things we are doing.

Finally, I will accept the fact that we cannot justify the space station on science alone. One of the main purposes of the space station is for exploration to extend beyond Earth orbit and explore worlds like Mars and the Moon and perhaps Europa, to involve commerce, to involve education.

And the last point I want to make is that every time there is new science, there is always a reluctance to take a look at the new science. There was reluctance to build the Hubble space telescope because people were accustomed to going to the top of a mountain. The same kind of arguments that we see today on the space station from well-meaning people in the science community we saw in Hubble, and we have the Space Telescope Institute sitting there in Baltimore bringing back data that has enriched us and no one could have believed.

These are the things that NASA is about and we have got to go on and we have got to go on and we have got to take risks and we have got to press forward. So far, with the exception of $100 million, we have been able to reprogram our own funds and not come back to the American people. And we have been at this now for 5 years and we are going to look even tighter at that.

I would like to see one other agency that has had their budget continuously go down that tripled the number of spacecraft they are building, and while all this is going on, we have built a research community that was almost zero and we are going to have 900 principal investigator grants in microgravity and life sciences. That has continued.

There are Nobel Laureates that are working with us on this space station. I was just down there at Cape Kennedy with Professor Sam Ting of MIT who told me without the space station, he will not be able to explore whether there are antimatter galaxies or dark matter in our universe. These are important things.

Now, some researchers could say, well, let us use the existing approach. It is something that this Nation has committed to and this is a question of U.S. leadership. I want to once again assure you we manage tough. I do not win popularity contests at NASA. We have downsized by tens of thousands of people, and we will continue to do the right thing. But what I ask you to consider is we are not ignoring the issues and we take them head on.

And the final point I want to make is the Russian people are struggling for democracy. This will not happen overnight. The one major thing they have left that separates them from developing countries is the pride in their space program. They have statues all over their country. They wanted to join America. They canceled their own space station to join an American-led program. The implications of our saying we want to be a partner only in good times and dropping them—I would be concerned that we are going to go back to a situation that will feed the fears of the hate mongers in Russia.

These are very considerable, significant issues and we focus on the problem areas. But I am very committed. I am convinced that the team we have is the best team in the world and somehow, some way we will make it work. And I will be back to this committee within 30 days with our assessment of where we think we ought to go and how we ought to address your concerns, Senator Mikulski's concerns, and Senator Bond's concerns.

SENATOR BUMPERS SUPPORT FOR NASA

Senator BUMPERS. Mr. Goldin, let me just say I could not agree with you more. You are preaching to the choir. I am not going to vote for NATO for the very reasons you just set out. The Russians have got plenty of problems over there and I do not want to debate NATO here today, but I am certainly going to speak loudly and clearly on the floor of the Senate on why I am opposed to expanding NATO, because I am convinced doing so will hurt our relations with Russia.

We want Russia to democratize. We would like for Russia to be able to participate in this in a timely manner, and I do not want to pursue that.

Mr. Chairman, you have been most kind.

I want to conclude with this, Mr. Goldin. I am a NASA supporter. I would vote for money and did vote for money for the Hubble space telescope. I think Rover and Pathfinder was an absolute scientific coup. I applauded it. I applaud most everything NASA has done. They discovered the hole in the ozone layer in the Antarctic 9 years after I tried to stop the manufacture of chlorofluorocarbons in this country and could not do it because people said this is just a wild theory. Nine years later the National Academy of Sciences and NASA discovered the ozone hole was there already. So, NASA plays a major role in future science, discovering other galaxies, all of those things.

That is not what we are talking about. We are talking about the space station and what we get out of it. And the Chabrow report says, No. 1, that we are looking at a $24 billion plus cost to assemble it. That is a $7.3 billion cost overrun, a flat 43 percent. That is just today. They further say that it will take 1 to 3 years longer than you say it is going to take, and the cost overrun is obviously going to be much greater if that turns out to be true.

Now, those are my final remarks, Mr. Chairman. Thank you very much for your indulgence.

SPACE STATION SCIENCE

Senator BOND. Thank you very much, Senator Bumpers.

Let me run through a couple of things. We have got a lot to cover here. We have a vote coming up before noon. Obviously, we will keep the record open and submit further questions, and some of our other members may have those questions. Thank you very much, Senator Bumpers for joining us.

NASA has moved $819 million into the construction of the space station between 1996 and 1998, and of that $819 million, some $416 million was already part of the space station program allocated for science activity. Does NASA intend to reinvest an additional $819 million into space station science, and if so, how and where are the funds coming from?

Mr. GOLDIN. Let me start off, Mal, and then you can jump in. Recognizing the change in the assembly sequence, we felt to go build some of that research equipment and have it sitting there, while we are trying to get the space station built would not be appropriate. However, we are continuing to fund all the scientists and build up the capability.

The second issue that we had is when we took a look at that research equipment, it was 10, 15 year old vintage technology and there was a significant amount of time to build it. So, we restructured it and now we have much better equipment, much higher performance, much wider band. The researchers will be able to do virtual presence from any place in the country.

We are committed to deliver every single thing we said we would do in terms of research facilities plus some, and for the record, I will submit all the additional things we are doing.

In terms of total dollars, as part of some of the offsets we have negotiated with some of our international partners, they are going to supply some of the equipment so the U.S. taxpayer does not have to cover that equipment. But we will be pleased to submit for

the record what we promised to deliver and everything we will deliver and the schedule for that delivery.

TRANSFER AUTHORITY

Senator BOND. With respect to transfer authority, I am concerned about upsetting the balance, as we have discussed, in NASA between manned space flight and the space science. I am also concerned that the administration's rhetoric of support for the station is questionable when they do not actually step up to the plate to ensure that the ISS is adequately funded.

With respect to the transfer authority, the administration requested $200 million: $173 million from science and mission, $27 million from within human space flight. How much is actually needed this year as opposed to requirements for funding that will occur in fiscal year 1999?

Mr. GOLDIN. The $200 million figure is an assessment made by the space station program office that they felt their reserves were short to that level. It is not money designed for any specific activity. In all probability, the lion's share of that money would be expended in 1999.

Senator BOND. So, this is really something that we could and should be dealing with in the fiscal year 1999 budget. We ought to be finding that money. If we are going to spend it in 1999, then we need to have some truth in budgeting and say this is the 1999 expenditure, should we not?

Mr. GOLDIN. Well, there could be some expenditure this year. We are not through the year, and it is very difficult to keep track of exactly where we are. But I would say that a good portion of the money would be spent in 1999 and in candor I wanted to tell you that as a fact. The budget process gets complex, and if we start the fiscal year and we do not have these resources and people have to commit things and the Congress does not reconvene until the following year, we are afraid we may have some problems.

But I cannot honestly tell you specifically what they may be, only the concern that the reserves are not adequate. When Mr. Chabrow talked about the reserves that we needed, it was assumed in the baseline that we had that $200 million. The timing of it we are prepared to work with you on.

USEFUL LIFE EXPENDENCY OF SPACE STATION

Senator BOND. I understand latest indications are that the space station will have a useful life of 8 and a half years. At $21.3 billion and counting, that makes it rather expensive. How did you come up with an 8 and a half year useful life and what does that mean?

Mr. GOLDIN. I did not come up with 8 and a half years. The space station has—let me go back to tell you how the program was designed. The President put a sunset clause on the station as a result of the redesign process and said at the end of 10 years of operation, we would have a national peer review to see if the space station was meeting its exploration, commercial, scientific, and educational goals, and if it did, it would continue for a further time. So, in terms of life of the station, it is well beyond 10 years.

I do not yet acknowledge the $21.3 billion because to get to $21.3 billion, you assume that between November 2002 and December 2004, you are doing no research.

If you go to the charts that I have supplied and go to the fourth chart which looks like this and the fifth chart which looks like this. In fact, let me stick with the fifth chart for 1 minute.

Senator BOND. OK.

Mr. GOLDIN. When you look at that chart, you will see that there is a point which says three-person capability, cum cost through January 1999, $12 billion. That is in 1999. Again, this assumes the Russians will deliver the service module within 4 months of when they said.

Then you see development, complete six-person capacity, $19.7 billion. We added a one-third node to the program. It is additional hardware that we added so we could get the six-person capability as early as possible. This is because the Italians are delivering this for us. We will have 80 percent of the research capability there.

Now, when you go from November 2002 to December 2003 to get to $21.3 billion, it assumes no research is going on and you charge the operational costs to the space station.

If you go back to this chart over here, you will see that we are already on the down slope in purple of the development activity, and the operational activity is already beginning.

So, it is a question of how we are approaching this, but we do not feel it is appropriate, if we get it up by 2003 with a six-person capability and have research ability to do 80 percent of the research, to say that all the money is being charged to development. So, right now we believe if the Russians will be able to get their hardware to us in time, November 2002, we think we have a good chance of doing that.

Now, if that slips, then the course will begin approaching this $21.3 billion. The GAO felt that $21.3 billion was the right number and we are at $19.7 billion. And I just wanted to point that out.

Senator BOND. Thank you, Mr. Goldin.

Senator Mikulski.

EFFECTS OF DOWNSIZING

Senator MIKULSKI. Mr. Goldin, I am not going to continue the conversations on the space station. I am going to move to a few others.

First of all, I do want to acknowledge that the agency was asked to really bring enormous disciplines into its system and that when you say how proud you are of the workers and that they have done the impossible, I want to agree with you. I have seen it in my own State at Goddard not only because Mr. Rothenberg is here, and I know that at every other facility that has been so.

What I am concerned about, though, is now impossible cannot continue as a management practice. Impossibility cannot continue as a management practice. So, I want to acknowledge everything that you said, and I share your pride too and a certain amount of even amazement.

But I feel that NASA in some ways is like where Defense is. We better be real careful about what we are doing because we could reach a point where in downsizing and so on, we could downgrade

and not have readiness, modernization, and other things that we need to do. So, just know that is why we are raising these concerns.

Mr. GOLDIN. Can I respond to that? I agree with you. I agree with you, and let me assure you if we had additional funds, we would know how to spend it.

I also want to make you aware of the point at some point in time NASA is going to require additional funds because we cannot go for 10 years without any increases.

FUTURE FUNDING OF NASA

Senator MIKULSKI. That goes to my next point. When you talked about Hubble took everyone out of the box, if you will, in thinking about the telescope, but Hubble could have been a major disaster because of the mirror, the dysfunctional nature of the Hubble mirror, where we got the Congress to agree to the greatest contact lens in world history.

Now, but we cannot afford this. There is less and less elasticity in the budget. We cannot underestimate what the significance of the balanced budget agreement was. We are not going to keep going into debt to compensate for mistakes. This is a leader in the balanced budget amendment. I am a Janey-come-lately to it, but I voted for it. OK? And now that is where we are. So, this is why we are talking about the prudent nature of it.

I do worry about the future funding of NASA and I worry about NASA in relationship to other scientific programs. We could go through how EPA is to get more money. The National Science Foundation is being discussed, doubling the NIH budget, all of which I think we would like to support presuming the finding of a revenue stream. But I am concerned that NASA is never on that list, and we got to get it on that list. I think we need to hear the thoughts about you and then really a conversation with the administration on this and then how to accommodate that within our current balanced budget environment.

Y2K PROBLEM

Now, but let me go to something else. I was really troubled to read that a report commissioned by the House on the Y2K problem in which there was an evaluation done like a report card that Congressman Steve Horn asked for and that NASA got a D and that NASA got a D in saying that of the 459 mission critical systems, the agency had identified 40 percent as compliant, 60 percent as noncompliant. Of the 218 systems that were out of compliance, only 214 had been renovated.

I do not want to go through all the numbers here, but my gosh, you are the high tech agency. You are one of the flagship high tech agencies, and if you are getting a D for being ready for Y2K, that is troublesome. In what areas? Is it on management and procurement and personnel? Is it Y2K problems in computer technology with the shuttle with integration with other international agencies, even western European? Let us put the Russians aside. Do you want to comment on that?

Mr. GOLDIN. To be quite candid, Senator Mikulski, I am flabbergasted that we have such a score——

Senator MIKULSKI. I was too.

Mr. GOLDIN [continuing]. Because I met with the President's special advisor on Y2K and he saw what we were doing. I believe—and I am not sure—that part of the——

Senator MIKULSKI. Go ahead. Just keep talking.

Senator BOND. Do not worry about us.

Senator MIKULSKI. I have got a Y2K beeper. [Laughter.]

Mr. GOLDIN. I believe the way the scoring system goes is they take a look at the rate at which you are achieving things and in the November to February timeframe, I think we closed out seven critical systems. So, they extended that rate out and it went beyond the March 1999 timeframe. But that is working to our plan. We have the whole agency at battle stations and have been that way for a number of years. We believe we are doing all the right things.

In fact, we have taken further steps. I am sending letters to 3,500 of our suppliers. We are renegotiating our contracts with our suppliers, and in house and contractor-wise, we think we are on track. We have a plan that beats or exceeds the Y2K problem, and we will communicate with Mr. Horn. I expect that we are going to be there.

There are two concerns that we have. One is our international partners. Only 2 of our 16 international partners are really focusing and addressing this issue, and I do have some concern about some of our contractors.

But with those two exceptions, I believe we are right on track, and for the record, I will submit the plan we are on, the accomplishments we have made, and why I believe we are doing the right thing.

Senator MIKULSKI. Well, I think this is critical and I think what we are committed to is making sure that you are on target and that you have the resources to be on target.

Senator BOND. This is a prime concern of this subcommittee and all of the agencies. I would certainly hate to be on an airplane when the year 2000 arrives if all the computers think that it is 1900.

Senator MIKULSKI. That is exactly right.

Now, you will be interested to know Agriculture and EPA get a B. They're your pals, and FEMA gets a D minus. I know they are all your friends, but some are more friendly than others.

But, Mr. Goldin, what I would like to do is share with you what I have been working off of as I raise this issue. May I give this to one of your staff so that then you know the paper that I looked at that really raised my eyebrows when I saw NASA. You know, the Department of Ed gets a D.

Mr. GOLDIN. I saw that and I will get you material that I think will build your confidence that we are doing the right thing.

Senator MIKULSKI. Thank you very much.

UNCOSTED CARRYOVERS

Senator BOND. Mr. Goldin, I am going to try to hurry through a couple of things that are important enough that I want to mention here before we leave for the vote, and I do not expect that we will come back. We will have to submit the rest for the record.

But the uncosted carryovers are of grave concern. It seems to be the answer to everything. We have got an uncosted carryover.

What troubles me, if we appropriate the funds through the Congress for an intended purpose, can the agency spend them for another purpose because they have not been costed or actually spent?

I would like you to explain the use of uncosted carryovers. What happens to the programs when the funds are shifted from their intended purpose, and why do some programs, such as space science and earth science, carry such large uncosted carryovers? Are these funds we need for the programs? How will they affect future funding and how will the deficit be made up?

Mr. GOLDIN. Thank you, Mr. Chairman. First, let me say that NASA itself brought this issue forward. I raised this issue a year and a half ago.

Let me tell you the reason that it occurred. NASA underwent more change than most Federal agencies and contractors, and let me give you an example of Mission to Planet Earth. When I took over, for the 1990's Mission to Planet Earth had $11.4 billion. That was appropriated by the Congress. We went in there and over the last 5 years we brought that number down to $6.8 billion. We have been slashing budgets and making changes.

Our people rightfully held up procurements so the money would not get spent. So, I give them an A for good management, but they did not recognize the buildup of the backlog in cash.

Senator BOND. Backlog in actually budget authority.

Mr. GOLDIN. Budget authority.

So, when we identified the problem, we had $4.8 billion of carryover funds. We are now down to $3.5 billion, and within 1 year we will be at $2.8 billion which we believe is the carrying level necessary for an agency like NASA.

We have put this into the goals of our executives. They earn their bonuses based upon not just managing efficiently, but being cognizant of the cash flow.

There was another problem that came out as a result of this carryover issue and that was that our grants process and our working with the universities needed reinvention. And this is in the earth science and the space science area. We put the responsibility at NASA Goddard. They have a terrific person leading that activity. We work with the universities, and we think within 1 year we will be able to be much more efficient in how the money is delivered to the universities.

So, we found efficiencies in our own system. We are one of the few agencies who manages the uncosted because we are concerned about this issue, but I can assure you we have reduced it by $1.3 billion and within 1 year we will be at the running level of $2.8 billion.

Senator BOND. Are you saying that because you have made efficiencies and economies, you are not going to need this money, that you are going to be able to accomplish what the money was appropriated for without the money?

Mr. GOLDIN. We just reprogrammed the money for a variety of resources.

Senator BOND. Yes; but I mean when you take it out of one area, it is an uncosted obligation. Does that mean you are just not ready to spend the money? You are not ready to have the cash flow go

out this year and you will need it next year? Or does it mean that because of better, cheaper, smaller, you are not going to need it?

Mr. GOLDIN. The people did not want to prerelease RFP's so we would get the wrong response. For example, the common spacecraft buy was delayed because we changed the whole approach based upon our advisory committee structure. So, they rightfully held up because of all the change going on, and then we released the RFP and we have the resources to do it.

Senator BOND. Are you going to need to replenish those funds?

Mr. GOLDIN. Malcolm?

Mr. PETERSON. Sir, if I may. What is being reflected in the drawdown of uncosted is materializing in outlays. This is spending, of course, that we are in excess of our budget authority levels. Our future plans assume that we will stay about at the end of the 1998 level and continue on from there. We do not have any surpluses in this account.

Senator BOND. Are you going to have to come back to the areas where you found uncosted carryovers and seek additional appropriations in the future?

Mr. PETERSON. I believe not, sir.

Senator BOND. OK.

SUBCOMMITTEE RECESS

With that, Mr. Goldin, we will look forward to continuing our discussions. I thank you very much for an informative hearing, and the hearing is recessed.

[Whereupon, at 11:54 a.m., Thursday, April 23, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, APRIL 30, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:38 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Christopher S. Bond (chairman) presiding.

Present: Senators Bond, Burns, Campbell, Mikulski, Leahy, and Lautenberg.

ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF CAROL BROWNER, ADMINISTRATOR

ACCOMPANIED BY:

FRED HANSEN, DEPUTY ADMINISTRATOR

SALLYANNE HARPER, ACTING CHIEF FINANCIAL OFFICER

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. Good morning.

The Subcommittee on VA, HUD, and Independent Agencies of the Appropriations Committee will come to order.

This morning we are going to take the testimony on the fiscal year 1999 budget request for the Environmental Protection Agency. We welcome Administrator Browner, Deputy Administrator Fred Hansen, Ms. Harper, and other EPA officials.

EPA is requesting a fiscal year 1999 budget of $7.8 billion, an increase of $400 million or 6 percent. Major increases are proposed for Superfund, which would rise by $600 million; the climate change technology initiative, which would increase $116 million, or 130 percent; and particulate matter, or PM–2.5, monitoring, which would receive an increase of $29 million for a total of $65 million.

While clean water activities as part of the new Clean Water Action Plan would increase $150 million, the State revolving fund for clean water in the President's request decreases by $275 million, for a net decrease of $125 million for water quality activities.

The President's budget proposes to fund much of EPA through the extension of the Superfund tax. Specifically, the Environmental Resources Fund would fund $4.6 billion of EPA's budget request

and would be funded in part by Superfund taxes. The budget would also be funded in part by the proposed tobacco settlement.

Clearly, the extension of the Superfund tax this year is unlikely at best. The committees have worked on Superfund, but the progress has not been good. Moreover, Superfund taxes should not be used to fund programs other than Superfund, and revenues accruing from the proposed tobacco settlement undoubtedly will not be funding discretionary spending.

These are but a few of the unrealistic assumptions included in the President's budget proposal for fiscal year 1999. To put it in context, the President's fiscal year 1999 budget exceeds the discretionary spending caps by nearly $12 billion in outlays, according to the Congressional Budget Office. Therefore, we have to say the expectations raised by the President's budget request simply are not realistic.

I would note that EPA's budget has been reformatted consistent with the Government Performance and Results Act. It includes, for the first time, performance goals and measures and in many instances focused on results. These changes are encouraging. I commend EPA for its work in this area.

However, there are a number of concerns.

First, there continues to be a strong emphasis in some areas on outputs, rather than outcomes. In the enforcement area—a goal in and of itself which is puzzling, since enforcement should be a tool for environmental results rather than a goal—virtually all of the performance measures are traditional inputs, such as the number of inspections to be conducted.

To comply with the intent and spirit of the Results Act, the emphasis should be squarely on outcomes—protection of and improvements to the environment and public health.

Second, the inspector general earlier this year provided a list of the top 10 areas of concern within EPA. According to the inspector general, "an overarching issue that relates to many of EPA's problems is a lack of accountability."

The GPRA's focus is on accountability for results. Yet accountability has been among EPA's weakest areas, as the inspector general, the National Academy of Public Administration, and others have pointed out in the past.

According to the inspector general,

> One of the most significant challenges EPA faces in implementing the Results Act is developing an accurate baseline of environmental data for planning, budgeting, implementing, and evaluating EPA's programs. Without accurate data, EPA's managers cannot assess EPA's progress in carrying out its environmental mission.

While EPA has paid lip service to the issue of environmental data quality and information gaps, it simply has not risen to the top of the priority list. In its September 1997 report, NAPA said, "The agency has not yet established the institutions it will need to ensure that data are reliable, objective, credible, and consistent across programs and media." While NAPA called for a one-stop shop for environmental information, EPA has ignored this recommendation. There continue to be too many offices involved without real accountability in any one place.

EPA's budget cites again and again the agency's intended reliance on its environmental data systems to determine whether goals

are being met. This makes imperative the need to improve the quality of EPA data. We must have accurate information in order to know whether programs are working, whether dollars are being invested wisely, and to hold EPA accountable for meeting the goals it has set forth.

Furthermore, the issue of data quality is critical in view of EPA's emphasis on so-called right to know activities. The information EPA provides to the public absolutely must be accurate and reliable, and presented in an appropriate and meaningful context.

Finally, despite the new budget format for fiscal year 1999, we do not see a new budget discipline in which EPA has made hard choices, disinvested in lower priority activities, and made budget priorities based on the greatest opportunities for risk reduction.

In a letter to me dated April 23, which I ask to be included at the end of my statement, GAO indicates that a key management issue facing EPA is the need to improve its performance in establishing priorities that better reflect the risks to human health and the environment and that compare risks and risk reduction strategies across programs and pollution problems.

The most significant reduction proposed by EPA is the clean water State revolving fund, despite the fact that the administration has claimed clean water is a top priority. This program, as I believe we both agree, Ms. Browner, is one which works well. It leverages Federal resources significantly and helps meet a $130 billion national need for water infrastructure financing, including nonpoint source pollution controls.

In addition, EPA proposes to cut its research and development office despite the critical importance of adequate scientific research for sound environmental decisionmaking. In particular, EPA proposes to cut in half its particulate matter research program, despite the fact that this is a top human health concern about which there are many questions.

Significant additional research on particulate matter is needed in the next few years to ensure that we understand which components of particulate matter are affecting human health, in essence, which constituent particles of particulate matter are the ones which are the most problematic, and the mechanisms by which human health may be impacted.

The most significant increase in EPA's proposed budget would go to Superfund. But this is an area which clearly does not provide the greatest opportunities for risk reduction. This is a program which is badly flawed and seriously in need of revision.

As we discussed last year, I do not believe a $650 million increase is warranted for Superfund, given that reauthorization is not expected to occur in time for fiscal year 1999 implementation. This is despite a major effort by the authorizing committees. I would say that Senator Chafee, whose credentials are solid in this area, has worked long and hard to bring to the floor a Superfund reauthorization vehicle. There may be questions and there may be alternatives. The administration may have views on it. But we have been blocked from moving forward on it.

Superfund, let us emphasize, continues to be designated as a high risk program by the General Accounting Office; and the funds invested in Superfund afford little reduction in actual human risk,

environmental risk, compared to investments in other environmental problems.

GAO indicated in its April 23 letter that it considers cleanup of hazardous waste sites a key management concern at EPA.

GAO says, and I quote again,

> Our work has identified several management problems in the program, including that EPA has not allocated cleanup resources to the most significant threats to health and the environment, has recovered only a small percentage of its costs from the parties responsible for the pollution, has had difficulties in controlling the costs for contractors, and has not established performance goals needed to monitor the success of the agency's efforts to reduce the time cleanups take and to control the amount of funds for activities besides the actual cleanups, such as the expenses for legal fees.

GAO found in an October 1997 report that EPA's fiscal year 1998 Superfund budget was potentially overstated by $205 million because EPA used historical cost data as the basis for its request, rather than the more recent cost information that was available to the agency when it prepared its budget request.

This report confirmed our suspicion that the budget request for Superfund may have been inflated and represented political "one-upmanship" rather than an analytical, risk based approach to an environmental problem.

The Superfund budget has become mired in politics rather than reality. When scrutinized objectively, it clearly does not merit the increase which is being proposed.

As an example of where our Superfund dollars are going and just how broken this program is, a recent inspector general report found that at the Austin Avenue radiation site in Pennsylvania EPA spent, on average, over $650,000 to replace houses that had an average market value of $147,000.

In one case, EPA spent more than $900,000 to custom build a house while the appraised market value of the original house was $200,000.

I find it difficult to understand why EPA is in the business of building houses. I am appalled at the findings of the inspector general's report. Madam Administrator, this report suggests an outrageous example and exemplifies why many of us have no confidence in the program until it is reformed.

I ask the agency to provide us for the record a full and detailed accounting for the record of the abuse and misuse of taxpayer dollars which occurred at the Austin Avenue site.

The concerns I have raised with the budget generally are not dissimilar to concerns I have raised in previous years. I would hope we could work together to make more rational the allocation of EPA resources, establish accurate baselines against which EPA progress can be measured, and improve the agency's accountability for results.

On a positive note, EPA seems to have made progress in the last year in its common sense initiative, particularly in the metal finishing sector. I understand that the administration finally has come around to the need for alternative compliance legislation, essentially the codification of Project XL which we have discussed in this committee previously. This is significant progress in and of itself and I thank you for those efforts.

While there continue to be some concerns with the pace of progress in both CSI and XL, we have seen improvements. However, last fall's NAPA report found that much of the progress in the so-called reinvention area in the last few years has been of only marginal importance. EPA has not made an explicit effort to learn from these initiatives and then change core operations accordingly.

As you move forward with the reinvention efforts, I strongly encourage the Agency to evaluate carefully the successes and failures of efforts under the commonsense initiative and other programs and incorporate the lessons learned into the Agency's programs.

As you know, we commissioned NAPA in the fiscal year 1998 appropriations bill to work with EPA in this area, including developing mechanisms for evaluating Agency activities. Incidentally, it is my understanding that EPA still has not signed a contract with NAPA despite the fact that NAPA has submitted a detailed work plan several months ago. I would hope EPA would get off the dime on this important work so that the work could get underway. I would be interested in hearing what the status is.

With respect to issues concerning EPA's relationship with the States, I would note that some progress has been made in the National Environmental Performance Partnership System. More than 40 States now have performance partnership agreements with EPA.

In addition, an agreement was finally signed with the States which provides the framework for approving innovative regulatory projects. I hope EPA will move expeditiously to review and approve State reinvention projects when they are submitted.

In the past, States have raised concerns that they are consulted too little and too late, all too often. Unfortunately, we are still seeing instances of this. For example, EPA announced the Sector Facility Indexing project without consulting the States despite the important implications for the States, and EPA announced the title VI interim guidance without any involvement by the States.

I hope the agreement on regulatory innovations is a signal that the EPA-State relationship is evolving into more of a partnership. And I encourage EPA to keep the concerns of the States front and center because it is at the State level where implementation of environmental programs in most cases takes place and to focus on environmental results rather than programmatic bean counting of inputs.

Let me acknowledge, before I turn to my ranking member, that the Enterprise for the Environment (E4E) project recently concluded after 18 months of work at developing a proposal to improve the environmental protection system. This project involved a large and diverse group of highly qualified, experienced individuals, headed up by Bill Ruckelshaus and including former EPA administrators, industry executives, leaders of environmental organizations, State environmental commissioners, community activists and others.

We acknowledge the significant contributions made by EPA's deputy, Fred Hansen, who put in substantial time and energy on the project.

The report did not prescribe a very specific set of recommendations for change, but it did set some very important principles

which all participants agree on. These principles included adapting policies, strategies, and systems based on experience and new information; generating, disseminating, and relying on the best available scientific information; offering flexibility of means coupled with clarity of responsibility, accountability for performance, and transparency of results; and placing authority, responsibility, and accountability at the appropriate level of Government.

E4E called for a performance-based, information rich, flexible, and accountable system. I believe these principles are at the core of some of the issues we will discuss today.

I might also note that E4E calls for a ceasefire to the fear, divisiveness, and lack of trust that characterize the national debate about environmental policy. I have to say that when I saw some of the press releases handed out by the administration on Earth Day, which talk about Republican leadership ''dirty deals,'' a whole stack of scatological political fingerpointing, it does very little to raise the level of debate to the high ground.

I hope that the EPA appropriations and personnel are not expended in support of this form of partisan nonsense.

This concludes my opening statement and I now turn to my ranking member, Senator Mikulski.

Senator MIKULSKI. Thank you very much, Mr. Chairman. I am going to yield my time so that Senator Leahy may make his statement. Then I will follow on Senator Burns. Senator Leahy has other appropriations responsibilities.

Senator BOND. Thank you very much, Senator Mikulski.

We are delighted to hear from Senator Leahy.

STATEMENT OF PATRICK J. LEAHY

Senator LEAHY. Thank you, Mr. Chairman and thank you, Senator Mikulski, for your usual courtesy. I appreciate it. I will be very brief.

I do want to welcome the Administrator. You have survived a lot of battles over the past year, battles that I think have helped us move our country forward. You did not rest on your environmental laurels and I compliment you and your Agency for that. We are very proud of that.

I also want to thank you for including Lake Champlain within the budget request this year. In the past few weeks, Lake Champlain has received a great deal of attention and I think this is just one more chance to explain one of the threats we face with toxic pollutants.

The mercury report to Congress that you released is very, very important. The steps that you take to address mercury and other coal-fired power plants will not only protect Lake Champlain but will protect the Chesapeake Bay, will protect the five Great Lakes, will protect the Everglades, and will protect everything east of those plants.

As I look at it, I can see why a lot of people had worked to keep the report from coming out. I have long been worried about the impact mercury pollution from sources outside of Vermont is having on our land, rivers, and lakes.

This year, I introduced comprehensive legislation to eliminate mercury from our environment.

The more I read about it, the more I am convinced that we have to address some loopholes in the Clean Air Act that allow some of these older plants to spew out pollutants with little control.

We had assumed they would retire, like the older fleets of cars and a lot of the tailpipe emissions we have seen have disappeared. But newer, cleaner, more efficient plants are not replacing the older ones. Some in the administration are saying that they expect utility deregulation actually to reduce emissions from power plants.

I do not take that same conclusion. I would encourage the administration to take a much harder and I believe more realistic look at the environmental impacts of deregulation.

Vermont has been the dumping ground from these power plants for decades. It is time to face the issue headon. I think if we are going to have utility deregulation, we also should use it as an opportunity to clean up theses older plants.

So I would look very, very closely at this because if we are going to continue to face these older plants spewing out pollutants, none of us will benefit from it in the East.

Mr. Chairman, as I mentioned to the ranking member, I will be brief. I would put my whole statement in the record and would also ask the permission of the committee to submit some questions for the record.

Senator BOND. Thank you very much, Senator Leahy. Your full statement will be made a part of the record. We will keep the record open for additional questions and this looks like it is going to be quite a series of questions.

I ask unanimous consent that a statement submitted by Senator Hagel be included as part of the record. We will make that available. He has questions that he wishes to submit.

PREPARED STATEMENT

Also Senator Craig cannot be here but said he would submit questions for the record. Senator Campbell had to chair another hearing and he, too, will be submitting questions for the record, along with his prepared statement.

[The statement follows:]

PREPARED STATEMENT OF SENATOR BEN NIGHTHORSE CAMPBELL

EPA'S FISCAL YEAR 1999 BUDGET

Thank you, Mr. Chairman, I would like to welcome Ms. Browner for appearing before the Subcommittee today. I know that back in my home state of Colorado some of the EPA's proposals and workings have roused some concern. From regional haze to Colorado's environmental self-audit program, all have come under fire from numerous groups, and I would like to address these and other EPA issues at the appropriate time.

Colorado and many other Western states have unique situations when it comes to the environment. One size fits all cannot take precedence any longer. Local and state environmental problems need to be remedied at that level, not from Washington. It is difficult to correct local problems from here, when the remedies are out there.

Also, when it comes to the environment, education is the key. Our children need to be taught that hard work, science and technology can help fix our environmental problems, but all sides need to be addressed in this crucial field. Apparently, this does not seem to be the case and I hope that this discrepancy can be addressed here today.

There are some other issues that I will pursue during our time for questions. Thank you, Mr. Chairman.

STATEMENT OF CONRAD BURNS

Senator BOND. Now I turn to Senator Burns.

Senator BURNS. Thank you very much, Mr. Chairman.

Ms. Browner, welcome now that we got your chair this morning adjusted so that you can comfortably answer all of the questions that most of us have for you today.

I am going to submit my statement, Mr. Chairman. But there are a couple of areas that I want to talk about just a little bit this morning.

FOOD QUALITY

As we try to find money to do those things that are high on our priority list, and environment has to be on that list, I am wondering about this. Between you and the FDA and the Department of Agriculture, do you all carry collision insurance? I'll bet you run over one another out there.

You have 18,000 folks running around out there. And I notice in your statement this morning, which I just read, you mentioned children so many times it is a wonder any of us ever got to adulthood before there was an EPA. I am really concerned about the redundancy, especially in the area of food quality.

You place a lot of emphasis on this, on food quality, and we have an FDA that does the same thing, a USDA that does the same thing. I am wondering if you have ever assessed how many people we have running around in this Federal Government where all of them are doing the same thing and are reaching, sometimes, different conclusions. This leaves us up here to be a little bit cynical and, of course, also the American public about coming up with $7.771 billion just to do something that somebody else already is doing.

Also, I want to dwell this morning on this—and when I mentioned the fact down there that you have a hard time getting that John Deere tractor running with the direction in which you are running as far as air and particulates, we may outlaw John Deere tractors. Then I will want to know where you are going to get your bread. But we have already figured that out, too.

I also want to dwell on haze a little bit this morning. But I am more concerned with redundancy than I am with anything else. We just absolutely waste money. This Austin Avenue thing in Pennsylvania, has that person that did that, that made that decision, is he still working for the agency? If he is, why is that? If not, has he been branded or tagged so that he does not get another job somewhere else? But that will come later because I want to hear the statement of the ranking member.

PREPARED STATEMENT

I want to submit my statement and will thank you for coming this morning.

[The statement follows:]

PREPARED STATEMENT OF SENATOR CONRAD BURNS

Thank you, Mr. Chairman. I would like to thank the Chairman for calling this hearing today, as Administrator Browner comes before this committee to explain the

budget for fiscal year 1999 for the Environmental Protection Agency. Like most appropriations hearings I have been to this year, I am not sure that we will see eye to eye with the Administration on the number of dollars and the use of the dollars in the budget for this agency. I honestly don't understand the way that the Administration put together the budget for the coming year, and I have yet to hear any real good defense of the proposed budget in any hearing yet. I would like to think this one might be different, but in reviewing what is there so far, I can't honestly say that I believe I will see any radical departure from what has occurred so far.

I am as concerned with this budget as I am in all that I have seen come down from the Administration this year. I am worried about where the money is coming from the number of new projects and the amount that is being spent on them. In addition to that I am very concern about how and where all the money in the EPA budget is being allocated. This does not reflect the needs of all the people, only those categories which this Administration has determined to place in a role of importance. This is a great concern, for like in many things that this Administration is doing the dollars are going in areas that Congress has had little or in many cases no input on.

On those issues where Congress has had a say, the work is not proceeding in an expeditious manner. Take the implementation of the Food Quality Protection Act, as an example. There are a number of products out there that could and should be approved by the EPA, but you and your agency have not come to grips with meeting with these folks. They are still waiting to hear from you as instructed by the Vice President.

The concern among both the user groups and the manufacturers in this instance is that unrealistic assumptions are being made in relation to EPA decisions. It also appears that EPA has reduced work on experimental use permits and Section 3 registrations. Which requires a dependence on Section 18 emergency use permits.

Basically if EPA does not get off the dime here, the FQPA will not serve the needs and concerns of Congress and the people. Added to this it will fail to serve its important public health mission and may seriously harm U.S. Agricultural production. This at a time when our producers are experiencing extremely difficult times in the market place.

On another issue of great importance to me, Regional Haze rules. It once again appears that EPA has gone the long hard route instead of working within the guidelines established by Congress. It appears you have done everything you could possibly do to make this a western regional issue. Not only neglecting the will of Congress, but also ignoring the work of the individual states and Governors in the western states.

This is again another case of the arrogance of this Administration in dealing with states and Governors on issues related to their economy and public safety. You have ignored and overridden both state, local and federal statutes in proposing the rules and regulations we are seeing today. I cannot and will not tolerate this any more. As long as things are going your way, life is fine and dandy, but the minute it appears to be creating an obstacle you either swerve around the issue or completely ignore the law.

Ms. Browner, Mr. Chairman. I could continue you on here forever, but it is important that we hear from the Administrator and have time to ask the serious questions we need answers to. Thank you, Mr. Chairman.

STATEMENT OF BARBARA A. MIKULSKI

Senator BOND. Thank you very much, Senator Burns.

Senator Mikulski.

Senator MIKULSKI. Thank you very much, Mr. Chairman. I want to welcome EPA Administrator Carol Browner and her very able team.

This is Ms. Browner's sixth appearance before this subcommittee and I want to thank her for her efforts and her leadership over the last 6 years.

Administrator's Browner tenure has been neither boring nor uneventful. Budget cuts and Government shutdowns have made Ms. Browner's job and the jobs of EPA employees often quite challenging.

In addition, there has often been a very prickly climate toward environmental protection in the Congress as a whole, and I think

sometimes the authorizing committees have sometimes not been as helpful as they could be to create the climate of dealing with environmental problems and then often leave it to the Appropriations Committee to iron out the details, one of which, of course, is the Superfund reauthorization, for which this committee has been waiting even now for a number of years.

This has not always been the most constructive climate to move an agenda.

But to move on, as we move forward in today's hearing, let me note a few things that I am pleased to see in EPA's fiscal year 1999 budget. I am pleased to note that the President has requested an increase of $400 million for EPA, much needed and a rather prudent request. This is in line with the President's commitments, one of which I have advocated for years, to ensure that we do have a safe and healthy environment, not only for our own Nation but for the planet as we move forward to the year 2000.

The question is how will we focus on the coming millennium and what will be the very constructive role that the EPA and the Congress, working with EPA, will have.

I believe that supporting EPA could be one of our most important millennium projects along with doubling the NIH budget in terms of investment, public investment in science and technology.

I am pleased to see that the President has requested nearly $200 million for an increase for the Environmental Programs and Management Account, an increase also that includes $38 million for clean water action plan activities. This is on top of the large increase in other accounts for the clean water action plan.

I believe that the clean water action plan is absolutely significant to improving water quality to those of not only coastal States with estuaries but to those of us with rivers and lakes.

I would like to thank you, Ms. Browner, and then the very able responsiveness of Mr. Hansen and, particularly, Mr. Perciasepe, for the very quickstep way EPA responded to our Governor and delegation's bipartisan 911 call when pfiesteria hit the Chesapeake Bay and the Pocomoke River. Whether it was Representative Wayne Gilchrist or Senator Barbara Mikulski, you responded on a very quick and collegial way and we are very appreciative.

In the hearing, I will want to probe in more deep detail a plan for not only pfiesteria, which hit my State, the marine biotoxins, which I believe are a national problem, even a global problem.

In addition to that, while we are talking about the interagency cooperation, I want to raise another issue related to shipbreaking. It is something that I want my colleagues to become aware of.

This came to Maryland's attention and to national attention due to a Pulitzer Prize winning series done by the Baltimore Sun on what we did with wonderful ships from the U.S. Navy that had served the Nation with honor and that now were being dismantled in very environmentally dangerous situations and also were being shipped abroad in a way that really did not bring honor to the United States of America.

I would like to discuss that with you because I believe that our ships are floating military bases and I believe they should be retired with honor and with dignity, and at the same time in a environmentally safe way both within our own country and abroad.

Mr. Chairman, I am deeply concerned about this issue. I will go into this in more detail as this conversation goes forward.

I want to insure that materials being disposed of after shipbreaking in this country, like asbestos, PCB's, oil and lead, are done in an environmentally safe way and that it is safe for both the worker as well as for the environment.

Also, Ms. Browner, I would like to hear your plans for shipbreaking.

Also, this is a year of followup on the Brownfields program. I know the chairman shares my concern about the need to revitalize brownfields. My own home town of Baltimore has over 3,000 acres of brownfields and I want to hear this morning what progress EPA has made with its brownfields initiative if we have time.

I want to work with the chairman to stand sentry that we will have a brownfields program that works both for the taxpayer and works for the communities that receive brownfields, and that the brownfields project does not become a fiscal Superfund site. OK.

I believe that environmental protection goes hand in hand with economic growth and job creation. Protecting our environment can create jobs and not destroy them.

The chairman has also raised the question about the NAPA report. I won't go into that.

I just want to wrap up my opening statement and close by noting my concern with the requested $275 million reduction in the very effective and popular Clean Water State Revolving Fund Program. This is a program that the States and local communities feel very passionately about and it meets a compelling human and local need. So we look forward to talking about that.

Mr. Chairman, I ask unanimous consent that my full opening statement be included in the record. But in the interest of time I won't have several opening statements, meaning this one and each time I go to ask a question. I am willing to consolidate. I am in the process of reinventing opening statements.

STATEMENT OF CAROL BROWNER

Senator BOND. Senator Mikulski, if you absolutely insist, we will accept it for the record. We would rather hear your statements in full, but I will accede to your request and include all of your opening statement and your subsequent opening statements for the record.

I guess the time has finally come for the Administrator.

Madam Administrator, if you would proceed, we will, of course, make your full statements and any attachments thereto or additions you wish to be made part of the record and would invite you to make such comments as you feel appropriate.

Ms. BROWNER. Thank you, Mr. Chairman, Senator Mikulski, and members of this subcommittee for the opportunity to testify today on the President's 1999 budget request for the United States Environmental Protection Agency.

The budget we present today is an important investment in the American people and I think it advances a goal that we all share, Mr. Chairman, which is protecting the Nation's air, water, the food we eat, the land on which we live. It is based on a very simple premise, the premise being that protecting the environment, pro-

tecting our health, are good for the economy, that we do not have to choose between a healthy economy and a healthy environment. It is a proposition that I think has been borne out over the past 5 years, particularly when we have seen both the economy grow and our commitment to public health and environmental protections strengthened.

Just this year we have seen that it is possible to eliminate the deficit while strengthening our investment in a safer, cleaner, and healthier environment.

Getting results is obviously another important cornerstone of what we do. Mr. Chairman, as you noted, this budget is the first ever to reflect EPA's new approach of goal-based budgeting. Linking our resources to real, environmental results will require a several year effort. We appreciate your comments as we will continue to make adjustments to our new goal-structured approach.

We do believe that a goal-oriented approach is helping us better allocate our resources, better measure our successes, and better allow us to stay in sync with our strategic plan. But it is a fundamental change in how we have attempted to manage our budget, and we would ask you to work with us as we understand where we have been successful in this effort and where we might make additional improvements.

I think this is what Congress envisioned when it passed the GPRA, the Government Performance and Results Act.

I think as we look to the environmental challenges of the 21st century, this approach to budgeting will be particularly helpful.

One of the greatest challenges we face both as a Nation and as a world is the challenge of global warming. As you noted, Mr. Chairman, this budget does reflect the President's determination that America shall lead the world in meeting the challenge of global warming by reducing greenhouse gases in a way that allows the economy to grow.

New data show that 1997 was the hottest year ever recorded. Nine of the hottest years on record have occurred since 1987. The vast majority of the world's scientists have warned us that if we don't begin to tackle this problem now, we will leave a legacy of climate change and environmental damage that will greatly burden future generations and perhaps we will not be able to reverse them.

The proposal that we bring before you builds on very successful efforts that have been underway for a long period of time, including many which were started by my predecessor, Bill Reilly. The point is to forge partnerships with the business community, to find common sense, cost-effective ways to meet the challenge of global warming.

The President has put forward a $6.3 billion package that would include technology, tax incentives, research and development to encourage the next generation to innovative, antipollution solutions.

We believe that in this way we can reduce the pollution that causes global warming and continue to build our economy.

Mr. Chairman, I know there are some in Congress who have suggested that the administration's budget request is a back-door ratification of Kyoto. I want to be very, very clear about this matter. We fully respect the very important role that Congress must play

in reviewing the Kyoto Treaty for ratification, and in no way does this budget request undermine that role. It is in keeping with what the President has said for many years now: We can, we must, take prudent steps to address this very real and dangerous threat.

As I said, it builds on successful programs that are already in place.

While global warming is a top priority of this administration, so is finishing the job of cleaning up the pollution in our rivers, lakes, and coastal waters. The President has put forth a clean water action plan which seeks funding for a number of agencies. The Department of Agriculture and EPA are two of the largest.

The purpose of these dollars is to address what we all believe is today's greatest threat to our Nation's waters across the country, and that is the threat of polluted run-off. Mr. Chairman, you have spoken very eloquently to this issue. Senator Mikulski is familiar with this issue as it relates to pfiesteria. We are also concerned about the loss of wetlands and, ultimately, the restoration of our waterways.

The clean water action plan is designed to foster a spirit of cooperation, bringing together all of the various agencies and departments. With respect to the EPA's clean water action plan budget request, all but $25 million dollars goes to the States to allow them to develop the kind of plans they need to take on this remaining pollution challenge.

The budget we present also speaks to our efforts to protect the most vulnerable among us, frequently our children. Giving children a healthier start in life is one of this administration's highest priorities. The fiscal year 1999 President's budget requests an additional $8 million to further assist us in addressing the unique vulnerability of children to environmental threats, specifically, our efforts to ensure that public health regulations recognize their very special needs. We are working in partnership with the Department of Health and Human Services to establish the five or six research centers for children's environmental health.

When we first announced this program in partnership with HHS, we anticipated that we might only hear from a relatively small number of interested parties. We received over 60 inquiries, and 31 proposals from which these centers will be chosen. I think this demonstrates the kind of work that is already going on out there, and the very real sense in the scientific and public health community that we need to be looking at these problems. We need to expand our understanding of how environmental issues may be affecting the health of our children.

The budget will also help us ensure that our neighborhoods are free from toxic waste sites. We are requesting an increase in Superfund funding. This is designed to help us deal with an increasing number of sites that are approaching the final phase of cleanup.

We can have our disagreements about what Superfund reauthorization should entail. I have personally worked very hard to achieve reauthorization. I have been up to the Hill on this issue more frequently than on any other issue in the last 5 years, including meetings that have gone well into the evening, and I continue to be available to do that.

But while we are engaged in those discussions and while we seek common ground, we have made some progress. Where we have had the discussions, we have made progress. Then, unfortunately, the discussions do not continue and that leaves an area where we have disagreement.

We have changed the day to day operation of the program and we continue to change the day to day operation of the program. The truth of the matter is that we now have a large number of sites. We have provided your staff with a list of those sites that we can take into the final phase of cleanup.

Despite whatever our disagreements may be about the program, let's not say to those neighborhoods, let's not say to those communities that you've waited 10, 12, or 13 years, and you are now going to have to wait again as we don't have the dollars to finally get the job done.

Mr. Chairman, you also spoke to the issue of air pollution and the budget that we present today will help us clean our air. We do request $75 million. It builds on last year's congressional appropriations to implement the new public health air standards, particularly the PM standard.

As you are very aware, the National Academy of Sciences, per your instructions, has worked with us to develop short-term research agenda and a long-term research agenda which is almost complete. The funding that they recommended for a 2-year period is in keeping with the funding that we request here.

Congress was generous in providing some additional money last year. When you combine last year's money with our request this year, we would be a little bit over what the National Academy of Sciences has recommended for a research agenda at this point in time. Regarding the long-term research agenda, we will complete the work with NAS later this year.

You spoke to the issue of data and our responsibility to both honor the public's right-to-know, giving them access to information, and ensuring that information is of a quality that represents both the problems we may face as well as the progress we have made.

We are engaged in a number of activities. Mr. Hansen can speak to those during the question and answer period. But, in particular this budget reflects our commitment to a new Center for Environmental Information and Statistics. The Center is designed, for the first time ever, to bring it all together.

We collect data in a number of ways. The States collect the information. What we have to do is create a whole. We have to put it together in a cohesive manner.

It is not a small challenge and it is one to which we are committed.

The budget request stands for sound science—to continue to build within EPA the world's best program for environmental science and research. This budget requests funding for programs that will insure that we have the quality science needed to engage in peer review, so we can look to the best and brightest scientists across the country to assist us in the work that we do.

I know there is some concern, that in some way, the science or the research and development request is a reduction. The only way in which there is a change in the number is that we did not carry

forward congressional adds. We believe many of those projects were well funded in the additions that Congress made last year. So we don't carry them forward.

We have maintained our funding for those programs that we have been committed to. We certainly honor what Congress has asked us to do and if some of those are appropriate for additional funding, that is a conversation we can engage in. But that is the only change embodied in our research and development commitment.

Finally, Mr. Chairman, you spoke to the need to build partnerships, whether it be with State government, local governments, the private sector. This budget request includes funding to allow us to continue the work with the States.

I have said on many occasions that it is a relationship that takes constant work. It is a little bit like a marriage. You have to work on it each and every day.

We are making progress. We will continue at times to have our disagreements. But we are committed to making the partnerships with the States work.

You are exactly right. They are out there, doing a lot of this work on a day-to-day basis.

There are some things we can do better; there are things that they can do better. It is finding that relationship and strengthening it each and every day that is important.

Similarly, we are working with the private sector. Through projects like XL, and the common sense initiative, we are really changing how we go about doing this job. Mr. Chairman, you may not be aware that we have actually brought in an outside consultant to evaluate these programs, to evaluate the common sense initiative. The consultant is talking to us about what was successful, what was not successful, identifying areas we need to change, constantly trying to improve this system.

I would say that we were very pleased, as I think you are, with the E4E report. The report noted that the activities we currently have underway follow the appropriate path and at this point in time, wholesale change would not necessarily be the most productive. We have to constantly look at new tools, integrate them into the system, evaluate their effectiveness and make appropriate adjustments. That is what we are committed to doing.

PREPARED STATEMENT

With that, Mr. Chairman, we are, again, very pleased to be here today and more than happy to answer any questions that you may have about the request.

[The statement follows:]

PREPARED STATEMENT OF CAROL M. BROWNER

Mr. Chairman, I am delighted to be here today to testify on the President's 1999 budget for the Environmental Protection Agency. The Agency's budget request for this year is $7.771 billion and support for 18,375 FTE. The 1999 budget request is a six percent increase over the enacted level for fiscal year 1998. This budget clearly demonstrates the Administration's abiding commitment to protecting the air we breathe, the water we drink, the food we eat, and the land on which we live.

A commitment to environmental protection and economic progress is the foundation for the President's 1999 budget request. As the President has said, this time

of prosperity is not a time to rest, but a time to build a better future for our children. The budget increase the Administration requests for EPA is the embodiment of that spirit.

Like previous budgets submitted by the President, this one is based on the premise that protecting the environment and protecting public health are good for the economy. That proposition has been borne out over the past quarter century, and particularly during the recent years of unprecedented economic growth. We can all agree that the nation's economic health is closely linked with the health of the environment.

We can grow the economy while moving forward with the strong, effective environmental and public health measures that the American people want and deserve. Just this year, we've seen that it is possible to eliminate the deficit while strengthening our commitment to a safer, cleaner, and healthier environment.

This budget meets that commitment by expanding the opportunities for Americans to know about pollution in their communities. It meets that commitment by taking measures to improve protections for our children. It meets that commitment by speeding up toxic waste cleanup, redeveloping ''brownfields'' sites, and toughening enforcement against criminal polluters. And it meets that commitment by funding a plan to help States protect their most endangered watersheds.

I'd like to address some of the specific ways this budget addresses the critical, emerging environmental challenges of the 21st Century.

This budget reflects the President's determination that through the Research Fund for America the U.S. will lead the world in meeting the challenge of global warming by reducing greenhouse gases and doing so in a way that grows the economy. The ''Climate Change Technology Initiative (CCTI),'' a multi-Agency initiative including EPA, DOE, USDA, DOC, and HUD will enable us to meet that challenge. EPA's share of the initiative, funded in the 1999 budget at $205 million, will help America meet its global responsibility to reduce greenhouse gas emissions through market forces, new technology, and energy efficiency. EPA will work with industry to find sensible, cost-effective ways to meet the global warming challenge, all the while continuing on a path of economic growth.

Another major environmental challenge facing America is the continued environmental and public health threats related to the pollution of our rivers, lakes, and coastal waters. Clean water keeps both our communities and ecosystems healthy and thriving. EPA's 1999 budget includes $145 million, through the Environmental Resources Fund for America for the President's Clean Water Initiative. This initiative, which involves a number of agencies and departments government-wide, is designed to address today's greatest threats to our nation's waters including polluted runoff from urban and agricultural areas, industrial toxics, and the loss of wetlands. The States will play a key role in this initiative, as most of this new funding will go directly to the States so that we can protect our critical watersheds in the most effective way we know: community by community.

To further strengthen our partnership with communities, and to leverage federal tax dollars in the most effective way, the Administration supports continued capitalization of the State Revolving Funds. These funds make available low-interest loans to help communities meet the requirements of the Safe Drinking Water Act and The Clean Water Act. The Safe Drinking Water State Revolving Funds will help ensure that Americans have a safe, clean drinking water supply—our first line of defense in protecting public health. The Clean Water State Revolving Funds will help communities keep their waterways safe and clean and reduce beach closures. The President's proposed capitalization levels for these two funds will make progress toward the Administration goal of providing sufficient capital for the funds to offer $2.5 billion per year in financial assistance to communities over the long run.

Protecting the health of our children is one of this Administration's highest priorities, and protecting our environment is critical to our children's health. This budget adds $8 million to EPA's budget for implementing the Agency's children's health agenda. This money will support the activities of EPA's Office of Children's Health to make sure environmental protection efforts address the unique vulnerability of children to environmental health threats. Major activities include working with the Department of Health and Human Services to establish six Children's Environmental Research Centers, ensuring that EPA's public health regulations recognize children's health, and providing information to parents to better protect their children from environmental hazards.

To ensure that no child should have to grow up near a toxic waste dump, we will continue our accelerated cleanup of the nation's worst hazardous waste sites under Superfund. This budget request includes $2.1 billion for Superfund. This funding, along with continuing administrative reforms, will ensure that we meet the Admin-

istration's commitment to clean up 900 of the nation's worst toxic waste sites by the end of the year 2001.

EPA will also continue to expand and strengthen our Brownfields partnership with states, cities, and communities. This year's budget request for Brownfields is $91 million. This program has a proven record of revitalizing communities by helping them return abandoned industrial sites to productive use.

This Administration is committed to ensuring that our nation's air quality standards are strong enough to protect the public health. This budget request supports an investment of $75 million to implement the new, stronger clean air standards. This investment level honors the President's commitment to States to fund the costs of deploying a new fine particulate monitoring network and to provide them the tools necessary to carry out their monitoring efforts. This effort is crucial to ensuring cleaner, safer air for all Americans.

This budget provides an increase of $19 million to broaden citizens' right to know about pollutants in their communities. Examples of the action we will take include enhancing and improving the public's ability to gain access to information through the internet and through EPA's new Center for Environmental Information and Statistics.

We all agree that sound science is the key to sound environmental policies. This budget includes $527 million for EPA's Office of Research and Development (ORD), primarily funded through the Environmental Resources Funds for America, to ensure that we have a scientific basis to develop cost-effective environmental policies and to enable new and better approaches to environmental protection.

Finally, it is important to note that this is the first budget that reflects EPA's new approach of goal-based budgeting linking resources to environmental results. With this new approach, we are committed to carrying out the reforms envisioned by the Government Performance and Results Act. We are confident that this new approach will help us allocate our resources and measure our successes.

Mr. Chairman, I look forward to discussing the Administration's 1999 budget with you and the Committee. I know that you share the Administration's commitment to protect the environment while continuing on the Nation's path of unprecedented economic growth. We at the Agency are working to strengthen our relationships with the public, the regulated community, and its governmental partners to provide a more effective and efficient system of environmental protection. Together we can lay the groundwork for a new era of environmental protection, and leave our children and grandchildren with a cleaner, safer environment.

DATA QUALITY

Senator BOND. Thank you very much, Madam Administrator.

Let me turn first to the data quality, the GPRA, and the right to know issues. We have agreed that there is unanimous support for a performance based environmental protection system as called for by the E4E and the GPRA. The E4E report says, "Improved environmental protection must be rich with high quality information if it is to succeed." The inspector general identified data quality as one of the top 10 concerns at EPA.

They tell us that EPA has about 500 national information systems. According to a 1995 GAO report, "Despite EPA's efforts to improve the quality of its data, these data are often unreliable and the agency's many disparate information systems are not integrated."

Given that right-to-know is one of the 10 goals of your strategic plan, are you concerned about the quality of information provided to the public? If so, why has this not been a higher priority when it has been raised by the GAO, the inspector general, and NAPA for many years? What plans, if any, do you have for improving the quality and the reliability of the data system and how much do you have in the budget for it?

Ms. BROWNER. We agree with the need to ensure that all of our data collection is better integrated.

Part of the problem we face is the variety or the large number of laws under which we function. The Agency is required to hold 13 major environmental statutes, and they each direct us to collect information in a different way. They either direct the States to do things, as well as direct us to direct the States to do things.

It is only in the last several years that there has been this recognition both on the part of EPA, industry, and the States that integrating these systems would make a lot of sense. But it is not easily done.

You have 20 years of information collected in very different ways that now has to be brought into a whole.

We have embraced what I think is a very ambitious program, our reinventing environmental information initiative, REI, is designed to take each of the data sets, to look at the quality of the data being collected, and to decide how it might be integrated with other data collection.

We have also established a very strong data standardization program that centralizes review of data collection, and centralizes how we integrate these systems. We are working with the States to establish specific data standards. The Agency is also developing a program for electronic reporting. We have already begun to receive some information via computers and are in the process of establishing a support structure for a national systems reengineering effort. The budget request for these integration efforts is $18.4 million.

Each of the program areas continues to handle the responsibility in terms of budgeting for the actual collection.

With respect to the public's right-to-know, we have sought to honor that right-to-know and expand those efforts. We have concentrated our efforts within programs where there is a history of public access. So, for example, the toxic release inventory has a long track record of how information is made available to the public. We have sought to improve that.

We are concluding an effort on the Sector Facility Indexing Project, to make that available to the public and to do it in a way that ensures the quality of the data.

I might just say, in closing, that it is important to understand where this data largely comes from. It comes from facilities. It comes from industry, from those who are required to meet particular environmental standards. And as important as it will be for us to ensure the quality of that data, it is equally important that they do their part.

So we have been engaged through Mr. Hansen and others, in an effort to ensure that the collection of data is done by the reporting facilities in an accurate and thorough manner.

DATA QUALITY: CHIEF INFORMATION OFFICER ROLE

Senator BOND. I know that there are many things going on. We have the February 4 memo, I gather from you to assistant administrators and everybody else, about the reinventing environmental action plan. At the bottom of the second page it addresses ensuring data quality. All it says is we are directing the CEIS in close consultation with EPA program offices and the CEIS counsel to study this issue and report.

Why has the Center for Environmental Information and Statistics been charged with it rather than the Chief Information Officer? I really think you have a whole lot of systems. But as I read the information from the inspector general, all of this sharing and all of the information going back and forth does not seem to have a reliable underlying quality. I think this is one of the problems.

We may ask the inspector general, the acting inspector general to address this. But I don't feel that we have an indication that you are focusing on what has been identified as a major problem, and that is bad information getting into the system.

Ms. BROWNER. Mr. Chairman, we do have a number of efforts underway. The memo that you made reference to, the February 4 memo, has been updated with a subsequent memo this week which we are happy to provide to you. It says to the Agency that the Chief Information Officer, the CIO, should actually be responsible for developing the plans to ensure the quality of data.

CEIS will make the data public. The CIO will be responsible for how to ensure the quality of that data before it is made public. This is an effort, in part, to respond to the kind of questions that you are raising. We think they are legitimate questions. As I said before, this is not a small undertaking. It is going to take the entire agency to make it work well.

This is absolutely essential to the GPRA. We have to get this piece right to be able to get to the next part of GPRA, which is to give you the outcomes, to give you the results, to be able to say the air is this much cleaner, the water is that much safer. And getting this data piece fixed is extremely important to that effort. That is why we are continuing and expanding that work.

Senator BOND. I will come back to related questions in my next round of questioning. I would only say that we would like to see the most recent memorandum. Also, the committee would invite the comments of the acting inspector general to give us your comments on the progress because we are concerned about this.

Ms. BROWNER. Would you like for her to come up to the table?

Senator BOND. Let's get through some things here first. We have no shortage of questions and we could be here till next Tuesday. But we will try to go on a priority basis. I appreciate that.

Senator BURNS. I haven't got anything planned.

SHIP BREAKING

Senator BOND. Senator Mikulski.

Senator MIKULSKI. Thank you, Mr. Chairman.

Senator Burns said he didn't have other plans. But I will be moving to the Senate floor for the NATO debate.

Ms. Browner, I am going to ask you to shift gears for a moment and focus on an issue related, really, to both domestic and foreign policy. That is the issue of ship breaking.

I would like to just inform my colleagues that the Baltimore Sun did a Pulitzer Prize winning series on what we do in the United States of America to deal with 130 ships that are no longer fit for duty or fit for any other recycling, other than to be scrapped.

Looking at both the *Coral Sea*, which was being dismantled in Baltimore, taking it through Texas and even on to India and other countries, they found terrible situations. In our own country, ships

were being dismantled where old ships have asbestos, lead, PCB's, all of the problems we know went into World War II through Vietnam era ships. They found that the workers were dismantling ships with no environmental protection to themselves nor to the surrounding community. We then had PCB's leaking into water supplies and other types of issues.

Then they also found that these ships were being sent to India where more than 30,000 laborers cut ships apart with torches and often with their bare hands.

As a result of that, I, and members of the House like Congressmen George Miller and George Brown, asked the Navy for a report. You were part of that report.

Could you tell us, then, what is the status of EPA's role to ensure that when Navy ships are retired, they are retired with honor and in a way that is environmentally safe to the worker and to the community both here and abroad?

Ms. BROWNER. The report, which, as you are well aware, was provided to Congress last week, has a number of recommendations that would affect EPA. This includes a recommendation that EPA, OSHA, the Defense Logistics Agency, the Navy, and others, develop guidance for testing, removal, and disposal of the nonliquid PCB's in accordance with other existing rules.

You raise a very valid point about the fact that there were not the kind of safety requirements in place. There was also no notification to EPA or other Government agencies when one of these ships was to be——

Senator MIKULSKI. No notification by the Navy?

Ms. BROWNER. No; we did not necessarily know.

One of the recommendations is that the Navy should enter into an agreement, which we will do, to provide notification to EPA when a ship scrapping contract is let. The Agency will also be provided with the location of where that proposed scrapping operation will occur, and a program whereby EPA and OSHA would conduct joint compliance inspections of these activities.

Senator MIKULSKI. And that would be in the United States?

Ms. BROWNER. Yes; that would be for the operations here in the United States.

Senator MIKULSKI. Now abroad, as I understand it, the committee recommended to my dismay the continual export of these ships overseas and said that they could be done in an environmentally safe way and charged you with the international monitoring to do that.

No. 1, do you agree with that recommendation?

No. 2, do you think you have the resources to go into another country to see whether these ships would be scrapped in situations are adequate? I don't think you can.

I am about to introduce a bill prohibiting the export of those ships, have them done in American shipyards. God knows that the shipyards are foraging for work, and many of the shipyards, like Bethlehem Shipyard in my own State, that have the technical capability to build ships under some pilot projects might have the technical capability to dismantle and, therefore, treat these ships like a base closing, which they were. They were floating military

bases. And then they can retire them in a way that they are safe and cleaned up.

Ms. BROWNER. We share, as do other parts of the Federal Government, your concern about selling of these vessels to foreign scrappers. Included in the report is a recommendation that EPA, with the Navy and others, look at how to expand notification to other countries on when these ships are going to be moved, and a list of the hazardous kind of materials that are commonly found on these ships.

We also think it would be helpful to revise the notification to other countries to include what we would refer to as tacit agreement. A country would have 30 days to object to the movement of the vessel.

Senator MIKULSKI. Do you think that is a good policy or are we dumping our environmental problems with ship scrapping, which is a complex and expensive issue? Do you think that that is a good policy, to export these overseas?

Ms. BROWNER. I don't think there is a simple yes or no answer.

I think that we all are concerned, particularly at EPA, that when these vessels are shipped to other countries, that it be done in a way that does not endanger any individual's health or the environment. In the report to Congress, the question is raised about endangering the public health and the environment and there are specific recommendations about how to improve that. This includes such things as the Navy exploring the use of performance bonds and enforceable contracts at firms.

Senator MIKULSKI. Overseas?

Ms. BROWNER. That is what they are looking at.

The question for everybody is: What are the tools that should be brought to bear when it is appropriate for one of these ships to leave the United States?

Senator MIKULSKI. Madam Administrator, I am going to be introducing a bill later on this week—later on this month --that will deal with ship scrapping both in the United States and abroad. My bill will prohibit ship scrapping abroad and then see how we can, in the most constructive way, be able to scrap these in the United States that would provide jobs and, at the same time, protect the environment and the worker, and do it in a way that I think helps the U.S. Navy.

There are 115 ships waiting to be scrapped at tremendous expense to the United States and because we do not have a reliable, safe policy, it is ultimately costing us more. It is like keeping military bases open that have no utility but, again, I will repeat, should be retired with honor.

So we look forward to working with you on this.

Ms. BROWNER. Likewise. We would like to work with you and we certainly share a number of your concerns.

Senator BOND. Thank you very much, Senator Mikulski.

Senator Burns.

Senator BURNS. Thank you very much.

BASE REALIGNMENT AND CLOSURE [BRAC]

Following up on the thought that Senator Mikulski has, how much does the EPA get involved with environmental cleanup as a result of base closings, as a result of BRAC?

Ms. BROWNER. We have an interagency agreement with the Department of Defense with respect to fast tract cleanup military base closures. There are 110 military base closures that involve some amount of cleanup activities. EPA worked with the military services and the Department to ensure that the cleanups are done in accordance with public health and environmental standards and laws.

One of the things we did do when we started working on base closures was try to address local communities' concerns. I went out to some of these bases. What I heard from people was that under prior rules and guidance, if any of the base had contamination—and I don't know why this was done—the entire base would not be available for transfer to the community. And so, based on that concern, it did not seem like a logical way to do business to me.

We actually went in and we adjusted our requirements so that just the area of contamination is fenced off and addressed, and the remainder of the base can actually be transferred despite this limited area of contamination. It has been very successful.

We have done this now in a number of closing military bases.

[The information follows:]

Congress, the Department of Defense, and EPA amended the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) by the Community Environmental Response Facilitation Act (CERFA) in October 1992, which allows for the transfer of parcels designated as "uncontaminated" prior to the cleanup of an entire military installation. This allowed the Department of Defense to transfer this property in an expedited manner, which in some cases hastened reuse.

Senator BURNS. This is no little figure because I chair the Military Construction Appropriations. From between now and 2002, we will spend over $10 billion in environmental cleanup.

Ms. BROWNER. Yes.

Senator BURNS. I am going to hold oversight hearings on this because I have the same concerns that you have. There are just certain areas of a military installation that would probably have some contamination. We do have some contamination and we want to clean them up. That is not the point. But I just wondered how much.

Ms. BROWNER. If I might just continue, Senator——

Senator BURNS. Yes; but I am going to run out of time.

Ms. BROWNER. EPA has approximately 140 FTE's or workyears who work on these bases and we are reimbursed by the Department of Defense for those employees.

REGIONAL HAZE: PARTICULATE MATTER MONITORS

Senator BURNS. That is what scares me to death.

Anyway, let's talk about haze, particularly as it got started, as you know in the West and the Grand Canyon. That is kind of where it got started, and all of this.

I see where the President's budget request is for $67.5 million to develop a national monitoring network for fine particulate matter.

I am getting feedback from the States saying that the program would probably cost closer to $90 million.

Ms. BROWNER. We are carrying approximately $90 million for the monitors. You are just looking, I think, at this year's budget request. We had some money last year. There is this year's request and there will be a modest amount next year.

Senator BURNS. Tell me how adequate is the existing monitoring network for measuring visibility in all Class I areas.

Ms. BROWNER. Mr. Chairman, if I might have a little extra time here. I would like to walk through the monitoring system because it is a complicated issue that includes both the Class I haze issue and the fine particles for which this committee has been very helpful in terms of providing resources. It will take me a minute to do that, if that is agreeable to you.

Senator BURNS. How much are you requesting this year for monitoring?

Ms. BROWNER. We are requesting, this year, the total dollar amount of $65 million, to purchase the monitors. That is added to an amount that was provided last year. We have already notified the committee that we would be seeking a small amount next year.

We buy these monitors over an extended period of time. That is No. 1. No. 2, we are paying the States' cost share.

Historically, under the Clean Air Act, when new monitors are installed, the States pay about 40 percent of the costs and we are covering 100 percent in this budget.

Senator BURNS. I am told now that this is more in the area of particulate rather than in haze. Is that so?

Ms. BROWNER. Included in the monitoring request are 100 of what we call improve monitors, which support the regional haze efforts in Class I areas and the PM–2.5 transport issues. These included in the total monitoring sites.

Senator BURNS. OK. Now going along those lines, the States are concerned that if there is an underfunding, more of that responsibility is going to fall on the States. Is that accurate?

Ms. BROWNER. I will tell you that we have made adjustments in this President's budget specifically at the request of the States. We increased the number of PM monitors at the request of the States to the tune of 200 more monitors.

We think we have been responsive. If you are aware of something that we were not responsive to on the part of the States, we are more than happy to sit down with them and figure this out.

This was not something we arrived at on our own. We took it to an external peer review panel and did not include those additional monitors.

The States came to us. They asked us for the additional monitors, and we have incorporated that into this budget request.

REGIONAL HAZE: VISIBILITY RESEARCH

Senator BURNS. OK. In 1990, the Congress required the EPA to undertake the research before it conducted the rulemaking to impose regional haze requirements on the country. Congress authorized $40 million for EPA's visibility research, but your budget for visibility research was not very much. The Clean Air Act required

the administrator to report on its research findings and assessment results.

Now, with that in mind, after a court ordered EPA to produce its report, did EPA prepare a paper on visibility research?

Ms. BROWNER. This is earmarked from 1990? I apologize, but I did not understand the beginning of your question.

Senator BURNS. Well, in 1990, the Congress said you are required to make these reports before you conduct the rulemaking on haze.

Ms. BROWNER. We have engaged in the scientific evaluation of haze for almost 15 years now through the Grand Canyon Visibility Commission and other activities. I guess what you are citing is the Clean Air Act Amendments of 1990 and a requirement that we make reports to Congress. To the best of my knowledge, we are up to date on those reports.

Senator BURNS. Well, we can't find them, it seems.

Ms. BROWNER. We would be more than happy to provide the reports to you and if there is a problem, we will remedy it. I am not aware of a problem.

[CLERK'S NOTE.—Per the direction of Subcommittee staff, the Agency has provided reports on Regional Haze and Visibility Research directly to Senator Burns.]

Senator BURNS. What my concern is, really quickly, is this. The States got together and spent about 2 years gathering information on haze. None of that information, when it was submitted to you, was even used or considered. I am hearing this from every Governor without exception in that particular area. We are concerned about that. And there are certain tasks that you were required to do before you start promulgating rules.

I am going to lay this out in a little better order because we are concerned about the best available retrofit technology, because we have coal powered plants out there, and we have more than 1, 2, or 3 States involved. Also I am concerned about Federal agencies that may be exempt from contributing to haze because we have controlled burns from the Forest Service.

Are we going to put extra rules on the private sector in order to make up for what is happening in that area? It is those areas that I am very concerned about.

By the way, this fellow who built those houses up there at Austin, is he still with the EPA?

Ms. BROWNER. We are not allowed publicly to comment on personnel matters. There have been personnel changes in that region.

Senator BURNS. OK. We will leave it right there, then.

Ms. BROWNER. It is in the Privacy Act.

Senator BURNS. Funny, that never occurred to me in private business. I'll tell you that he would be gone very quickly there. It's unbelievable.

Ms. BROWNER. Senator Burns, you raised two points that I want to be responsive to.

First of all, on the regional haze issue, it is a proposed rule and we are continuing the dialog with the States. For example, we really appreciate the work we have been able to do with Utah and the work we have been doing with Colorado on the situation. We have not made a final decision.

No. 2—and this is extremely important because there is a lot of confusion about this—controlled burns/forest fires, the day those things occur are the days that they occur. Those data points, those pollution levels are tossed out. They are not part of how you determine whether or not an area needs to take steps to reduce their pollution.

We all recognize the importance of controlled burns. We all recognize that forest fires will occur. So those are not part of the database.

Senator BOND. Senator Burns, I believe your time has expired.

Senator BURNS. One more question and then I have to go, and you will get rid of me.

How many more commissions have been put in place, these regional commissions, to monitor haze?

Ms. BROWNER. The Grand Canyon is the only one at this time.

Senator BURNS. How come the rest of them have not been done?

Ms. BROWNER. It is up to the States to make decisions as to whether or not they want to do that. They may well decide that. I am not privy to their thinking on that.

Senator BOND. Senator Burns, thank you. We would be happy to work with you in getting your questions in the record if you have additional questions.

Senator BURNS. I'll get the questions to you.

Ms. BROWNER. Apparently, the western Governors may be thinking about doing something like that. We have heard some information from their association.

Senator BOND. Thank you, Madam Administrator.

We will go now to Senator Lautenberg.

Senator LAUTENBERG. Thank you, Mr. Chairman. I was hoping that other discussion would just continue on.

Senator BOND. Actually, I do some controlled burning myself. I almost lost a wood fence when the wind turned into the wrong direction. [Laughter.]

FISCAL YEAR 1999 PRESIDENT'S BUDGET

Senator LAUTENBERG. I am pleased, Mr. Chairman, that we are holding this hearing and that we have the EPA administrator here to discuss the budget for 1999. I want to take this opportunity to thank her for the terrific job that she has done at EPA.

I know that you, Mr. Chairman, and the ranking member support environmental cleanup and this is one of the friendlier places for the Administrator to show up. I have seen her having to withstand some pretty tough fire and continue to pursue the objectives for which she has been appointed. She does it very well and the department functions well.

I want to tell you that, with the uncertainties that constantly seem to surround EPA in terms of whether or not there will be funding, et cetera, whether there is support for their mission, the folks who staff EPA do a wonderful job. I think over the years we are beginning to see this in the rate of progress in things like Superfund cleanup and some of the fights that we have been engaged in to clean up the water.

And yet, so many things are in suspension right now because we are not funding them.

I am, as is the chairman, a member of the Budget Committee, and we are committed to a balanced budget. As a consequence of that, the reins are very tight on expenditures, much of which I think is kind of short-changing really important projects, like clean water, clean air, and Superfund.

I would ask, Madam Administrator, what is going to be the impact on EPA and the environment if we do not fund the increases that the President requested?

Ms. BROWNER. I don't think it is as much a question of what the impact is on EPA. I think the question is, what is the impact on the American people?

The funding increases that we seek are largely within three separate areas. One is toxic waste cleanup. Without this increase there will be literally dozens of communities where sites are ready for their final cleanup and they will be asked to wait another 1, 2, 3, however many years, before the money is there. These are communities that have already waited 8, 9, 10 years. They want these sites cleaned up and want the redevelopment to occur. Without the one-time, additional funding we seek, it is just not going to happen.

In terms of clean water, the most pressing problem we now face is polluted runoff. We have asked Congress to strengthen the Clean Water Act. We have asked them to rewrite it to give the States and to give EPA better tools to do that. We have not been able to find agreement on such a proposal. But this budget request would allow the States additional dollars to develop the kind of plans they will need. Many State legislatures are already embracing this. Maryland and others have started to say we have to look at this polluted runoff issue. We have to think more broadly about how we address these problems.

The EPA budget request is $145 million for the President's plan, of which $120 million essentially goes to the States. Of the $145 million, $120 million goes directly to the States to address or begin the process of addressing polluted runoff.

The final budget request is for climate change. This is an effort to do what many on this committee and many in the Congress have repeatedly requested that we do, which is to work in partnership with the private sector to develop the technologies to reduce energy use. These are very successful programs. The return on the investment is quite remarkable. We fear that if we cannot continue these efforts reaching out to the business community and reducing our energy use, the consequences for future generations will be quite significant, and the costs of fixing the problems will be far greater than what we seek here.

SLOWED SUPERFUND CLEANUP

Senator LAUTENBERG. You mentioned the fact that many of the cleanups will have to wait. Are we talking about cleanups where EPA has arrived at the remedy——

Ms. BROWNER. Yes.

Senator LAUTENBERG [continuing]. And has all of the technical stuff pretty much done?

Ms. BROWNER. Yes.

Senator LAUTENBERG. Is there a guess as to how many sites might be affected?

SITES READY FOR FINAL CLEANUP

Ms. BROWNER. You are exactly right. These sites are in the final stage. Everything is done. We know what we need to do out there. The community knows what we are going to do. Everyone is in agreement and it is simply a matter of doing that final work at the site, which may be a 1, 2, or 3 year effort.

We have provided the committee with the universe of sites out of which there may be particular sites affected. We cannot tell you which particular sites because, at this committee's direction and others, we do a risk ranking on an annual basis.

The most important thing to understand is that at the end of September, 1998, which is the end of this fiscal year, we will have 30 sites ready for final cleanup that we will not have money for. We will not be able to do what those communities want.

At the end of September 1999, there will be an additional 50 sites ready for final cleanup.

The other problem that happens is that we are not able to move everyone else through the pipeline as quickly now as we would with these additional resources. So it causes two problems.

One, our communities are asked to wait where everything is done but the cleanup, and another set of communities does not get advanced as quickly as they could be.

EDISON LAB

Senator LAUTENBERG. EPA Region II has a laboratory function housed in a converted 1917 military warehouse in Edison, NJ. That is not a very conducive environment for scientists to be working in and the work that they do is pretty important.

Last year I had asked a question for the record and you responded by saying that the Edison laboratory was a high priority. But there is no request in the budget for fiscal year 1999 for this. What do we have to do to get this facility modernized so that the work efficiency factor can be improved significantly?

Ms. BROWNER. Senator Lautenberg, we do share your concern. We do not include this in our budget request this year because we had to make some difficult decisions.

We are building a state of the art science facility in North Carolina. The ground is broken and we are moving ahead. But it has not yet been fully funded. We believe at this point in time that we must complete that state of the art science facility. We don't have our own science facility down at RTP. I think we occupy 11 different buildings. We made a difficult decision to close out the funding request on that so that we could get it done in a timely manner. Then we would look to issues like the Edison laboratory.

It in no way suggests that we don't share the concerns you have about that facility. But a budget means some tough decisions and this was one of those tough decisions.

Senator LAUTENBERG. So if the funding were there, you would do these things concurrently? You would do the development of the North Carolina facility and the Edison laboratory as well?

Ms. BROWNER. If additional funding were provided, we would follow the wishes of Congress.

Senator LAUTENBERG. But you have acknowledged that the Edison facility is an important one and that you would like to see it retained and improved, if we could do so.

Ms. BROWNER. Yes.

Senator LAUTENBERG. Mr. Chairman, I have several other questions which I will submit. I thank you for the time that I have had.

Senator BOND. Thank you very much, Senator Lautenberg.

Now that we have Mr. Hansen's April 29 memorandum, I gather that the EPA's Chief Information Officer is going to lead the effort. Does this mean he will be held accountable for all data quality information management and we can set him up and if next year it is still inadequate, we will string him up on the dunking booth at the county fair?

Ms. BROWNER. I just wanted to find him. [Laughter.]

Senator BOND. Is he hiding back there?

Ms. BROWNER. He's here.

SECTOR FACILITY INDEXING

Senator BOND. One of the things that troubles us and that has troubled the others is the quality of information which is dispersed. I am not going to get into it. I will have questions for the record on the sector facility indexing project [SFIP] that you mentioned, which is being run by the enforcement office. It is not their job. There are questions which have been raised that EPA's ranking under the SFIP does not provide any meaningful information on the enforcement actions or noncompliance. So a paperwork violation would appear as significant as a violation with public health risks, one instance of noncompliance would be counted the same as many, and an instance of noncompliance lasting 1 day would be counted the same as one lasting many weeks.

The Michigan Director of Environmental Quality wrote the EPA: "We will have to expend our limited agency resources chasing issues that may rank high on the scale of public perception but will have no basis in fact and may relate to facilities in substantial compliance." That is why we understand that the States oppose the project.

So we would like to leave those questions for you to respond to because I do want to get to the Clean Water Action Plan.

Ms. BROWNER. Mr. Chairman, in the interest of having a full discussion, we have made adjustments in the sector facilities indexing in keeping with a number of the issues you raised.

Senator BOND. I know. EPA decided not to include the hazardous toxicity ranking.

Ms. BROWNER. Right. But I want to be certain you know that we have been engaged in that process. It is an ongoing process. Tomorrow we intend to release part of the information.

Senator BOND. Will you have addressed the objections by the States?

Ms. BROWNER. We believe we have. I want to say that we worked very closely with the States. There are some in the States who are comfortable but there will always be some who are not. There will always be some amount of disagreement over what is a paper viola-

tion, with some people saying it more is purely a paper violation and others saying it is significant. That is the nature of the thing.

CLEAN WATER STATE REVOLVING FUND FUNDING LEVEL

Senator BOND. We want to move on in whatever time we have left to the Clean Water Action Program. This is something I mentioned before.

I believe very strongly that clean water is essential to dealing with environmental problems and with many public health problems. That is why I am very much concerned that the administration is proposing a $275 million cut to clean water State revolving funds when the administration places such a high priority on clean water and there is a $139 billion need nationally for clean water infrastructure financing according to EPA's September 1997 needs survey and in view of the fact that this money, at the States' behest, can be used for nonpoint source controls.

Would you tell us why the cut is proposed?

Ms. BROWNER. We are honoring the commitment we made at the beginning of this administration to see the State clean water funds revolve at $2 billion as a long-term goal. What we said to the States was that this fund will revolve at $2 billion annually. This funding request honors that commitment.

We made a decision to ensure that the largest amount of dollars went into the drinking water fund because for the first time the States can move money between the two funds. They have never had that opportunity before. And the amount of money they can move is capped based on how much goes to drinking water.

So in an effort to bump up the cap, we wanted to fully fund drinking water to give the States the greatest flexibility.

CLEAN WATER ACTION PLAN

Senator BOND. When you are looking at a $139 billion need, I have real questions whether $2 billion a year is adequate. It is going to take many years for the revolving funds to meet the need and I just frankly don't think that there are adequate resources going in to the State revolving funds.

Let me say that with respect to the Clean Water Action Plan, we are going to do everything we can to provide the funds. We provided an increase of $5 million above the President's request last year for nonpoint source grants.

Ms. BROWNER. Yes.

Senator BOND. In addition, you will recall that the committee added funds for research on agro-forestry, which I believe affords us a non-Governmentally funded way of determining whether farmers, land owners, ranchers, by planting shrubs and trees on buffer strips along the waterways can generate economic returns and clean up the water by using the root systems to trap the nutrients, the pollutants, the chemicals, the livestock waste and everything else in a manner that is environmentally beneficial and economically sound.

Much of the plan, the Clean Water Action Plan, that I have seen seems to be about interagency coordination and a stronger focus on nonpoint sources, and I question whether this will require additional resources. I have worked in other committees with other

hats on with USDA and the Soil and Water Conservation people, the NRSC—NRCS, or whatever you call the Soil Conservation Service these days, and I can't keep up with the name changes. Aren't the actions necessary to achieve many of these goals carried out in cooperation with the private sector, with USDA agencies, and other agencies rather than as a result directly of EPA activities?

Ms. BROWNER. EPA has the major responsibility for the care and safeguarding of our water in the United States. We are the keeper, per congressional direction, of the Clean Water Act.

I think that while you are exactly right that the Clean Water Action Plan involves a number of other agencies, as we have done this work we have realized the important role they can bring to the task—to exclude EPA from these efforts.

Senator BOND. We are not saying to exclude EPA.

Ms. BROWNER. Oh, I know.

Senator BOND. I am saying that where you are going to get the most bang for your buck in nonpoint source pollution solutions is going to be through modifications, enhancements, livestock, and other farming operations.

Ms. BROWNER. That is, in part, true. The States have the resources to actually develop the plans. States will determine that the most important thing they can do along the Missouri River is replant here; the most important thing they can do is to restore this wetland over there; the most important thing they can do is to reach out and work with these farmers. That is what the EPA money goes to.

As I said earlier, our request is $145 million for the President's Clean Water Action Plan of which $120 million goes out to the States to let them develop the plans. This then allows USDA and others more effectively to target their resources.

But we have to have these watershed plans. It is really at the basis of all of this.

Senator BOND. I would conclude and turn this over to my ranking member after noting, No. 1, as you pointed out, the SRF money can be used to address nonpoint source pollution problems. A small amount of it can.

You are talking about working with farmers. To be quite frank, EPA is not going to understand, work with, or be accepted by agriculture——

Ms. BROWNER. We're not talking about EPA.

Senator BOND [continuing]. To the extent that the Soil Conservation Services will.

I am just saying that we need to move forward on this. Realistically, the agencies that are going to have to do it are going to be the agencies within the USDA.

Ms. BROWNER. Mr. Chairman, again, we are not talking about EPA. We are talking about the States getting the money and then working through the farming organizations.

I agree with you that the best way in many instances to reach farmers is through organizations where they have a longstanding relationship. It is one of the reasons why we entered into a memorandum of agreement on wetlands on farmlands. We appreciate that.

I just hope the committee can give serious consideration to our modest funding request because I do think it is important for the States to be able to do that.

Senator BOND. We have already said we have, we do, we will, we are doing it.

Ms. BROWNER. Thank you.

Senator BOND. And it is also being done in agriculture and other areas.

Ms. BROWNER. Yes.

Senator BOND. Senator Mikulski.

WATER QUALITY: FEDERAL AGENCIES' ROLES

Senator MIKULSKI. Thank you, again, Mr. Chairman. I think your line of questioning has pretty much the same direction I am going to go in because I am going to raise the issue of pfiesteria as well as other marine biotoxins.

Your point about the tree planting along the waterbeds, if you will, or water shorelines, is exactly what Senator Sarbanes advocated. So we really have a bipartisan consensus. The Vice President came to the Chesapeake Bay to actually support that particular endeavor.

I think what we don't have clear in our minds, because it is in different committees, is literally to say take a look at Maryland, if I could, or Missouri, or North Carolina, which also have a pfiesteria problem and then have almost a chart saying EPA will do this, USDA resources will do that, Soil Conservation will be doing such and such.

I agree with you, Mr. Chairman, that the Soil Conservation people, the land grant college approach, the Maryland Extension Agents are the ones that work with our farmers. When pfiesteria hit Maryland—and I will soon get to my question—we were really scared. We were scared about the consequences to public health. We were scared about the consequences to the Maryland seafood economy. Then, in our action, while looking out for the protection of seafood, we didn't want to destroy the Maryland poultry industry which, literally, has been one of the forces in saving jobs on the Eastern Shore.

Now we are trying to work through all of that. Again, I want to thank you and Mr. Perciasepe for really doing that.

Perhaps in describing where we are in the Maryland situation and what resources are needed both by EPA, you could describe that model because I think it is important for the chairman to get a sense that there is a model. Then it is important for me to see if you've got those resources for not only my State but then what we are going to do in other States so that if a State like Maryland takes positive, constructive action, we are not economically penalized by States that drag their heels or refuse to accept the problem.

Do you follow me?

Ms. BROWNER. Yes.

Senator MIKULSKI. My question here is what are we doing, do you have the money to do it, and are we accomplishing what I think both Senator Bond and I are saying?

Ms. BROWNER. The President's Clean Water Action Plan is the first Governmentwide effort to address polluted runoff. It details

what each of the participating departments and agencies will do. The entire budget request for all of the agencies is about $568 million, of which only $145 million comes to EPA. There is a recognition that the Department of Agriculture needs to receive more funding because of the role it has to play in addressing this problem.

But it takes participation by each part of the Government.

In terms of the State of Maryland, we are including in this budget request $2 million for pfiesteria research and State aid. It would not all be for Maryland. As you point out, other States have experienced a pfiesteria problem. We have also proposed increases in State resources to identify watersheds that experience an excess nutrient pollution problem, such as pfiesteria. This would be in the form of the 106 grants. We are requesting a $20 million increase for grants which the States can apply for. States with particular problems obviously are the ones that we are targeting with that increase in funding.

It is extremely important, as we all think about polluted runoff, whether it is agricultural or urban runoff, to recognize that the solutions will require a number of Federal agencies working together.

ANIMAL FEEDING OPERATIONS [AFO'S]

Senator MIKULSKI. But then let's go to what has now been identified as one of the major areas, which I think gives Senator Bond pause and also which we share, which is reducing water pollution from animal feeding operations. Then what is the best way to do that. As you probably know, Maryland farmers were not happy with the action taken by the Maryland General Assembly. My position is let's not fingerpoint. Let's pinpoint the problem and then see.

Could you tell us what role you have and intend to have in reducing the water pollution from AFO's. Then, also, if a State does a plan, what are you doing about regional solutions so that, for example, in our case, both the Maryland poultry industry is not disadvantaged by another State or by another country?

Ms. BROWNER. There has been increasing interest in this issue and we are working on how best to have a national focus, in part because of the competitive issues that you raise. We are now, through Bob Perciasepe and others, engaged in public outreach to determine what sized facilities might be appropriate for national standards and to determine what States would do relative to those national standards.

We do recognize, as is true in almost all of our programs, that once you have a national program, there may be the need for an individual State, given particular problems and challenges, to have perhaps a more rigorous or some additional components to the program.

But we are now working in partnership with the USDA to develop a unified national strategy for animal feeding operations. We are talking about large numbers of animals, a large amount of waste.

Senator MIKULSKI. But specific industries—Mr. Chairman, if I could just have your indulgence to pursue this——

Senator BOND. Please.

Senator MIKULSKI [continuing]. In my State it is poultry and in other States it could be cattle, dairy, et cetera.

Ms. BROWNER. Right.

Senator MIKULSKI. My listening to the debate in my own State and then in the excellent hearing that Senator Harkin and Senator Lugar had on this issue, tells me that we have to be sure that the agricultural interests feel that they are at the table with those also involved in environmental protection and in public health.

Now are you all going to have some type of advisory board where you are going to bring the industries to participate where you hear what they have to say and then the practical as well as the fiscal implications to them in implementing it, and that we then try to work in a national consensus? I don't want another Clean Air Act problem where we then say the science is not good enough, it is not sound, and then we all argue about the science.

I think if they could really be brought in——

Ms. BROWNER. We are doing that.

Senator MIKULSKI [continuing]. That is important. Ordinarily, I do not single out a particular company. But Mr. Jim Perdue—not Frank, but Jim, the one who has taken over the Perdue chicken venture—has a doctorate in marine biology. He is a very unusual person to be involved in this. He has a Ph.D. in marine biology. That was going to be his life's work, but he has taken over the family poultry business.

I would really hope you would include him and then others who have both the industry and yet who want to work for constructive solutions. Otherwise we are going to be at one more finger pointing position, arguing over what sound science is, et cetera. I think we all recognize that this is an American problem and in some States now it is at crisis proportion.

But we need to work through this. I also think that Senator Bond was right. The American farmers, regardless of whether he is in animal husbandry or in plantings, is a rugged individualist. These farmers do not go for government. But they do have confidence in some government agencies, like the Extension Service, Soil Conservation, and so on.

So we need to make best use of them, best use of Government thinking, and best use of those agencies that have had longstanding ways of communicating, but then you value-add to it. So this is really what we are looking for.

Am I on the right track here, Mr. Chairman, with your thinking?

Senator BOND. I believe so. I think we want to accomplish these goals and the question is how best we can do it. I have some questions about the emphasis being out on the wrong syllable.

Senator MIKULSKI. Did you get that? He said the emphasis on the wrong syllable. [Laughter.]

I took Latin in Catholic girls' school, so I can understand wrongly accented syllables. [Laughter.]

ANIMAL FEEDING OPERATIONS: STAKEHOLDER INVOLVEMENT

Ms. BROWNER. As I said earlier, we are working in partnership with USDA because we believe that they can help bring parties to the table and help facilitate the dialog in an honest and forthright manner.

We have been in a dialog with the pork producers. In fact, I just conducted a town hall meeting with pork producers, with men and women who farm every day. They held a meeting and I was able to join them via satellite for several hours.

It was very productive and it builds on a 2-year effort with the pork producers.

We have just done that kind of dialog and that kind of outreach with the poultry producers. And we are looking to do it with other appropriate sectors of the industry where you have growth, particularly in the very large animal feeding operations. We estimate that there are about 6,600 of these very large facilities.

But please know that we are interested in the dialog. I think the dialog with pork producers has been very positive. We have not agreed on everything. But we have certainly come to understand each other much better and we will certainly take your advice on Mr. Perdue and see how we might be able to involve him.

Senator MIKULSKI. Or at least if not him, then someone who comes with the background of both, of the industry and an understanding of the science.

Ms. BROWNER. We have put out a draft strategy describing how we might proceed and have asked people to comment on it. We will make sure that both of your offices have copies of that because it lays out a many year approach.

[CLERK'S NOTE.—On the request of Subcommittee staff, the Agency has provided the Draft Strategy for Animal Feeding Operations for the Subcommittee files.]

Senator MIKULSKI. Thank you, Ms. Browner.

Mr. Chairman, I have some other questions on other issues, like brownfields, that I will submit for the record. I have to get to the floor.

Senator BOND. Thank you.

Senator MIKULSKI. Thank you, Ms. Browner, and thank you, Mr. Perciasepe and everybody.

CLEAN WATER ACTION PLAN VS. CLEAN WATER STATE REVOLVING FUND FUNDING

Senator BOND. Madam Administrator, to wrap this up, as I look at the Clean Water Action Plan, I see that State grant assistance essentially goes up by about $115 million—that is, $115 million out of the $145 million increase overall. But at the same time, you are cutting $275 million out of the Clean Water SRF.

In 1998, we enacted $484 million in this category which you have in the clean water and watershed restoration budget initiative going to EPA. The recommendation is it goes up to $629 million. Of the increase, as I said, $115 million is for State grants and $30 million is for water quality program management.

Ms. BROWNER. I think a chunk of that also goes to the States.

Senator BOND. But that balances against a $275 million cut in the SRF for clean water.

Ms. BROWNER. Mr. Chairman, we agree with you there is a change in the allocation for the States in terms of the water money. Part of the differences in the numbers, to make sure we understand each other, is we did not carry forward the majority of the congressional earmarks, of which there were a large number.

Senator BOND. We understand that. That is not what we are talking about.

Ms. BROWNER. That is about $200 million.

Senator BOND. We are talking about the SRF, $275 million.

Ms. BROWNER. But that is within the total water budget request. I thought you were talking about the total water request.

Senator BOND. No.

Ms. BROWNER. OK. I apologize.

ANIMAL FEEDING OPERATIONS: AUTHORITY TO REGULATE

Senator BOND. I am talking about this.

Let me just ask a couple of quick questions with respect to the clean water initiative.

Regarding CAFO, the animal feeding operations, everyone agrees that we need to ensure that the CAFO's are in compliance. You indicated you have been working with the States, industry, and interest groups and that your goal is to develop a science based, affordable, achievable strategy to address these problems.

Ms. BROWNER. Yes.

Senator BOND. And you agree with that. With your AFO strategy and Clean Water Action Plan, do you now, under existing authorization have adequate authority to confront the problems you have identified regarding livestock farms? Are you going to be asking for additional legislative authority? Is additional authority needed? And what type of regulatory requirements could small producers expect from the EPA within this area?

Ms. BROWNER. We do not believe that we need any amendments to the Clean Water Act. In fact, today, about a quarter of the largest facilities are carrying some kind of permit. What we have said in the CAFO strategy is that we would work with the States to fully address the largest CAFOs by the year 2002. A permit likely would be the end point.

Let me back up for a second.

ANIMAL FEEDING OPERATION REGULATION: FOCUS ON LARGE OPERATION FIRST

We estimate there are about 450,000 animal feeding operations of which approximately 6,000 or 7,000 are the really large ones. Our initial focus is on those large operations. We do believe, and I think some in the industry would agree with this, that there are new technologies, such as waste management technologies, runoff controls. You have already seen them put in place in some States.

So our initial focus is on these largest facilities. Some of them are carrying some kind of permits. At this time, we would look to ensure that all of them are meeting basic requirements and protecting the water resources and the communities in which they operate.

One of the first things we are doing—and this may be of interest to you—is we are developing a national inventory of these types of facilities and a better understanding of the pollutant loadings that are associated with these facilities.

Someone told me recently that in a dairy production, one cow can generate up to 80 pounds of waste a day. Some of these facilities are actually producing more waste than a very small town may be

producing. So developing programs to better manage that waste is important.

Senator BOND. That is where milk has come from historically and that is what cows do while they are producing milk.

Ms. BROWNER. Well, we're for milk, and they do produce a lot of waste. [Laughter.]

Senator BOND. This is not something new. This is something we can do.

Ms. BROWNER. But what is new is putting thousands of them into one spot and confining them.

When we had open grazing the waste was more distributed. But we don't have open grazing in many situations now.

PARTICULATE MATTER: NATIONAL ACADEMY OF SCIENCES REPORT

Senator BOND. Let me move on to particulate matter.

I have talked about the National Academy of Sciences March 31 report. It states, among other things: "EPA should devote more funds to studying the types of particles most likely to be harmful to human health, the ways particles cause damage, the levels of exposure people actually receive." It concludes by saying, "Proceeding in the absence of such information could lead policymakers to focus on standards and controls for PM that are not of the highest public health priority."

My question to you is what are EPA's plans to refocus its research both in terms of the fiscal year 1998 budget and the fiscal year 1999 request to account for the recommendations of the NAS?

Ms. BROWNER. We have been working with the NAS—in fact, we'll have another meeting with the NAS in June—to make adjustments in the short-term research agenda. As explained earlier, we have not received the report yet on the long-term research agenda from the Academy.

The easiest way to think about this is that our research agenda was more focused on figuring out which smokestacks were producing the fine particles. The Academy suggested to us that, while that work is important, we needed to increase our focus on the biological mechanisms. So that is the adjustment we are making.

Senator BOND. Does it not make sense to find out what the problems are so you know how to structure the monitoring? That is their whole point.

Ms. BROWNER. Yes; and we don't disagree with what the Academy has said. We are making adjustments which we will be discussing with them in the allocation of our research dollars.

The research agenda, the research dollars over a 2-year period is in this year, 1998, $47.2 million that we will actually spend. Then, in 1999, it is $52 million.

The $8 million difference there is a result of funding the centers. I think your staffer is informed about this.

We are out soliciting for center proposals. You directed us to fund centers and we are doing that. But all of the proposals have to be peer reviewed. So we are engaged in the peer review process. The actual release of the funds won't occur until the next fiscal year.

Senator BOND. I understand and you told me that you are waiting to get peer review and all of that. But it seems to me that these

are very basic questions that we need to answer as we move forward.

Ms. BROWNER. I agree.

Senator BOND. I believe that the proposals can go out and should go out more rapidly so we know what it is we are dealing with. That has been part of the problem that I think the National Academy of Sciences has outlined. We are racing down the road and we don't know which of the many forks we are taking until we get the basic research. That is my point. That is why there was the earmark last year.

We are disappointed that the research grants have not been let yet this year because we have a tight timetable to get this done.

Ms. BROWNER. Mr. Chairman, with all due respect, Congress told us to work very rapidly with the Academy. We have met your deadlines for working with the Academy on a short-term research agenda and we feel that it is appropriate to withhold the announcement for the centers until the Academy told us where to spend the research money.

So all we are trying to do is make sure it all fits back together, as you have told us to do. So we are now ready to go forward with the centers.

Senator BOND. Will you commit, then, to following the National Academy of Sciences recommendations to assure that the funds are allocated to the highest priority research needs?

Ms. BROWNER. We are in dialog with the Academy and we have a full meeting on June 22 and 23 with them on how we are allocating our research dollars.

Senator BOND. Will you advise us——

Ms. BROWNER. Certainly.

Senator BOND [continuing]. If you come to agreement and, if not, why you do not and where you do not?

Ms. BROWNER. Yes; certainly.

Senator BOND. We want to follow that up.

Ms. BROWNER. Yes.

PARTICULATE MATTER: RESEARCH REQUEST

Senator BOND. We are concerned that EPA's fiscal year 1999 budget request would actually cut the PM research one-half, and NAS has called for about $50 million next year.

Ms. BROWNER. It is important to understand that, when you look at the NAS report and you look at how our budget is allocated, we are talking about 2-years worth of expenditures. Essentially, what the NAS recommended over a 2 year period and what this budget request represents plus what Congress very generously provided last year, we are essentially at the same place in terms of total dollar amounts. I think we are at $95 million and the Academy is at $86 million. So we are actually a little bit higher.

You have to look at this over a 2-year period because that is how it is going to be spent.

Senator BOND. I do not believe that that is accurate. I don't think that your Science Advisory Board agrees with that. We will have to continue this discussion.

Ms. BROWNER. We are more than happy to provide the detailed numbers of the money. It was $47.4 million for 1998 and $52 mil-

lion for 1999. The $52 million includes the $8 million that you appropriated for this year. Because we waited for the Academy's recommendations, it will actually be spent in the next year.

[The information follows:]

DETAIL NUMERICAL BREAKOUT OF THE NAS REPORT VS. FISCAL YEAR 1999 BUDGET REQUEST

Below is a comparison of the Environmental Protection Agency's (EPA's) estimated Fiscal Year 1998 Enacted Budget and Fiscal Year 1999 President's Budget Request to the National Research Council (NRC)/National Academy of Sciences (NAS) recommendations for Particulate Matter (PM) Research. To summarize, the NRC recommends $39.6M in fiscal year 1998 and $45.7M in fiscal year 1999 be spent on PM research to address their highest priority research areas for a total of $85.3M. EPA has in its Fiscal Year 1998 Enacted Budget $50.2M for PM research (plus an additional $5.2M in certain Congressional "add-ons" as listed below). For fiscal year 1999, the President's Budget Request includes $28.7M for PM research within EPA's Office of Research and Development and $15M for monitoring "super sites" within EPA's Office of Air and Radiation; a total of $43.7M related to PM research needs in fiscal year 1999. EPA's combined PM research-related budget for these two years is $93.9M (plus an additional $5.2M in certain Congressional "add-ons").

However, the $8M funding for five university-based research centers focusing on PM-related health effects, as provided for in the fiscal year 1998 Appropriations, will be funded in fiscal year 1999. The Agency waited for the NRC's recommendation of priority research areas before issuing a Request for Applications of grants to focus on these priority research areas. Upon receipt of the NRC's recommendations, EPA immediately prepared the Request for Applications, which will be announced in May, 1998 and will provide a five-month period for submitting applications. As a result, grants supporting the centers will not be awarded until the beginning of fiscal year 1999. Therefore, we expect fiscal year 1998 funding of PM research to be $42.2 plus the $5.2M in certain Congressional "add-ons" for a total of $47.4M. Whereas, the fiscal year 1999 funding for EPA's PM research efforts, including the fiscal year 1998 resources for the centers, will be $51.7M.

COMPARISON OF EPA ESTIMATED FISCAL YEAR 1998 AND FISCAL YEAR 1999 BUDGETS TO NRC RECOMMENDATIONS

[In millions of dollars]

	NRC recommendation fiscal year		EPA	
	1998	1999	Estimate enactment fiscal year 1998	Presidential budget fiscal year 1999
I. NRC highest priority research areas	39.6	45.7	42.7	22.6
II. Implementation-related research, not identified in NRC report as among highest priorities	.....	.....	7.5	6.1
Subtotal of Sections I and II	.....	.....	50.2	28.7
III. OAR Monitoring "super sites"	.....	.....	.....	15.0
Subtotal of Sections I, II, and III	.....	.....	50.2	43.7
IV. Five University-based Research Centers: Centers (earmarked in fiscal year 1998; grants awarded in fiscal year 1999)	.....	.....	−8.0	8.0
Subtotal of Sections I, II, III, and IV	.....	.....	42.2	51.7

COMPARISON OF EPA ESTIMATED FISCAL YEAR 1998 AND FISCAL YEAR 1999 BUDGETS TO NRC RECOMMENDATIONS—Continued

[In millions of dollars]

	NRC recommendation fiscal year		EPA	
	1998	1999	Estimate enactment fiscal year 1998	Presidential budget fiscal year 1999
V. Other Fiscal Year 1998 Enacted Congressional ''Add-ons'':				
Lovelace	.....	.....	2.0	.....
Johns Hopkins	.....	.....	1.5	.....
Jewish Lung Center	.....	.....	1.7	.....
Total	.....	.....	5.2	.....
Total	.....	.....	47.4	51.7

Note: The research in the Congressional ''Add-ons'' (section V. above) broadly support Air-related research, including PM.

PARTICULATE MATTER: MONITORS REQUEST

Senator BOND. I think the Academy's recommendations assumed that that would be spent this year.

The EPA has requested $65 million for fiscal year 1999 for the PM–2.5 monitoring network. According to the National Academy of Sciences, ''The agency should consider more fully the possibility that future research results might indicate that the expensive monitoring program is not measuring the most biologically important aspects of particulate matter. Such inconsistency would undermine the credibility and effectiveness of future control strategies and underprotect vulnerable subpopulations.''

What are EPA's plans to follow NAS's recommendations to reevaluate the monitoring network?

Ms. BROWNER. There are essentially two categories of monitors that make up the monitoring network for which we seek funding. One is the category that monitors how much 2.5 particulate matter is in the air. The other looks at things like chemical speciation.

In the Academy's report, they seem to focus on only those monitors that measure gross amounts and not the additional category of monitors. We will be meeting with the Academy to discuss this other group of monitors which we think are very responsive to the questions that they raise.

That category of monitors has already been subject to some peer review through CASAC and the parts of it that have not completed peer review will do so in the next several months by the CASAC panel. Then we can conclude the discussion with the Academy.

It is important to understand that we are talking about 1,500 sites at which there may be multiple monitors. The Academy appears to have focused on one type or subset of monitors and not the other.

Senator BOND. We will have to pursue this later. But I would hope you could get some outside expertise because, as I understand it, the National Academy of Sciences is saying that we need to

learn about chemical composition or speciation and how the monitoring network needs to focus.

I don't care whether it is 100 or 1,500. We need to have better information on what it is that we are looking for and what the dangers are before we can set up something here. I think they said target the culprit before we know what to focus on.

Ms. BROWNER. We are doing that. We will meet with them. When we complete the peer review process, which is extremely important, we will work with them. We have already completed it on one section of these and will work with them on that. And as we conclude the others, we can bring them in.

In the budget request before you, approximately $26 million of the $65.7 million that we seek this year for monitors goes to those types of monitors which the Academy addresses in their report. So almost one-half of the money goes to the speciation monitors, or to the continuous monitors, known as the Super Site Monitors.

FOOD QUALITY PROTECTION ACT [FQPA]: CHEMICAL REGISTRATION

Senator BOND. Let me move to the Food Quality Protection Act because this has raised so many questions. One of my important constituents, the Missouri Department of Agriculture, has been in my office. They report directly to Governor Carnahan. They have raised serious questions about the Food Quality Protection Act's implementation by the EPA.

I note also that a group called the Food Chain Coalition has written, challenging the scientific basis for forthcoming EPA decisions and said that,

> Approving and making available to growers and other pesticide users new and safer pesticides and new uses of registered pesticides which meet the new FQPA safety standards to replace older pesticides is the most effective means of immediately reducing pesticide risks with minimal disruption to growers. Yet EPA's review and registration of new compounds and new uses for minor crops has ground to a virtual halt.

Why is this? Why has EPA, if, in fact, it is true, why has the review ground to a halt?

Ms. BROWNER. If I understand the question, you are addressing, it goes to the registration of new chemicals.

Senator BOND. Yes.

Ms. BROWNER. Under the new law we had to put in place the guidelines for those new chemical registrations which we have now completed. We can provide you more detailed numbers.

In 1997, for example, 28 new, active ingredients were registered, which is above the numbers in prior years. As of April 24 of this year, 12 new active ingredients have been registered. Six of them are biologicals and one is a reduced risk.

So we are working in this program. We are the first to say that once the new law came into existence, it did take us some time to get all the rules, the protocols, and the guidance in place for how we would manage these as they came into the Agency. But the program is up and running now and we believe we are on a schedule that is in keeping with what we thought we could do.

FOOD QUALITY PROTECTION ACT: COORDINATION BETWEEN EPA AND USDA

Senator BOND. Apparently, the Vice President agreed there were problems and issued a memo directing the EPA to ensure the implementation of the paramount public health goals and that the new law is informed by a sound regulatory approach, by the expertise of the USDA, by appropriate input from affected members of the public, and by due regard for the need of our Nation's agricultural producers.

I gather that in response to that, a senior level working group at EPA and USDA was formed to address the issues, ensuring appropriate public participation and transparency.

Why did it take White House intervention to get the EPA to address those critical concerns?

Ms. BROWNER. We worked with the White House and with USDA on how best to engage in a public dialog. In particular we focused on the requirements in the new law, so that we focus on categories of chemicals, where they have a shared mode of mechanism.

We welcome the White House direction to EPA and USDA. In fact, tomorrow Secretary Glickman and I will announce the formation of a new committee made up of farmers, chemical companies, grocery stores, State agencies. It is a very large committee on how best to proceed particularly with this section of the law, and also other parts of the law. It will be cochaired by EPA Deputy Administrator Fred Hansen and USDA Deputy Secretary Rich Rominger.

FOOD QUALITY PROTECTION ACT: MEASUREMENT OF RISK

Senator BOND. There are a number of concerns that have been presented to us by affected groups which seem to question the reliability of the scientific basis. One states that EPA set aside water residue data collected by the U.S. Geological Survey for more than 4,800 surface water monitoring sites in favor of a purely theoretical model that estimated residues 100 times higher than what was actually determined by sample analysis. For pesticide exposure from ground water, EPA selected the single highest residue value from over 23,000 samples collected by the State. EPA averaged only the 151 samples showing detectible residues for the pesticide to determine an average residue level for all sites, disregarding the thousands of samples that had no detectible residues.

Ms. BROWNER. Mr. Chairman, I apologize, but I am not familiar with this.

Senator BOND. We will provide several of these examples that have been raised to us for your response.

Ms. BROWNER. That would be helpful.

FOOD QUALITY PROTECTION ACT: FOOD CHAIN COALITION CONCERNS

Senator BOND. Do you have any specific actions that you are taking in response to the concerns raised by the Food Chain Coalition in its March 24 letter to you?

Ms. BROWNER. I think the formation of this FACA, the committee that we are announcing the formation of tomorrow, should be very helpful in creating a forum for dialog about the kind of issues that

they are raising. This is an important component to resolving those issues.

Senator BOND. The other thing I think we are going to be very much interested in, based on the questions that have been raised, is to see what the EPA is doing and to ensure that it is placing the highest priority on ensuring that reliable data are obtained on pesticide risk before making decisions on tolerance, reassessments and reregistrations. I think that goes to the basic questions.

We all give lip service to sound science. We expect that sound science will be utilized and, frankly, certainly those of us in the legislative branch have to rely on the best scientific information we can get, and we expect that EPA will utilize that same scientific evaluation to assure us that the best data are being used.

Ms. BROWNER. Yes.

I believe some of the coalition members, what is it called——

Senator BOND. The Food Chain Coalition.

Ms. BROWNER [continuing]. Yes; I think some of their members are also on the advisory committee that we have assembled. So their interests will be represented.

NATIONAL RURAL WATER ASSOCIATION [NRWA] GRANT

Senator BOND. We will watch that with interest.

A recent inspector general report stated that the National Rural Water Association improperly used Federal assistance agreements and contracts to support lobbying and that a full-time EPA employee detailed to the NRWA inappropriately assisted NRWA in its lobbying activities.

As we both know, EPA has requested funding for NRWA in its budget request for several years and the Congress has increased funding based on widespread congressional support for rural water training and technical assistance to ensure compliance with drinking water standards in small systems.

How these grantees spend their dollars should be a question within the direct responsibility and oversight of EPA, would you not agree?

Ms. BROWNER. Yes; absolutely.

Senator BOND. What are you doing at EPA to ensure that Federal grants are not used for lobbying? How widespread is this problem? Are there other instances like this?

Ms. BROWNER. We are not aware of other instances. We take this matter very, very seriously. There are prohibitions on grantees, limitations in terms of how they can spend the money, and we are in discussions with the National Rural Water Association. These discussions include looking at the records they kept and the expenditures they made, which may or may not result in some—I don't think I am allowed to say this—restitution of the dollars.

Senator BOND. That would be my point, that if funds have been improperly used, they should be restored.

Ms. BROWNER. We agree. Absolutely.

Senator BOND. And if it comes to your attention or if you are advised that an EPA detailee is inappropriately engaging in something, that is your responsibility to do.

Ms. BROWNER. The individual does not work for us anymore. He is a full-time employee of the organization. So the question—and

it is a very appropriate question and is one where we are in discussion with them on—is about the activities he engaged in while he was an EPA detailee. I think that is the term that was used.

We share the concerns. And, as I said, it may result in restitution of funds.

Maybe I should just say that they have responded to some of this. They are currently claiming in their statements that, one, he did not engage in these kinds of activities and, two, that they did not exceed the prohibition on lobbying.

One of the problems we are having, quite frankly, is with the quality of their records. So the conversation is ongoing.

Senator BOND. If you would, advise us when you reach a conclusion after your examination of that, of the reports and the response provided.

Ms. BROWNER. Yes.

We have also changed the funding for this organization in our current grant per congressional direction. Funding for this organization has consisted of partly money we requested from Congress as well as funding that Congress has been generous in adding to that request.

In this year's grant dollars, we are requiring them to maintain a set of records that will allow us better to understand in the future what they have done.

NATIONAL ENVIRONMENTAL PERFORMANCE PARTNERSHIP SYSTEM

Senator BOND. One last area—and we are going to be touching on many of these in the questions I submit for the record—is, and let me now move to, the National Environmental Performance Partnership System.

EPA signed an agreement 3 years ago with environmental commissioners of the States which launched the National Environmental Performance Partnership System. It was to recognize that States had grown up in the past 25 years and in many cases they are able to manage environmental programs with less oversight and over the shoulder review from EPA. EPA was to provide flexibility to the States and focus on State performance, rather than bean counting.

Later that year, we provided authorization in the EPA appropriation for the EPA to provide performance partnership grants to the States, allowing States to merge individual grant programs and target resources to their highest priorities.

I understand that more than 40 States have so-called PPG's today. According to the September 1997 NAPA report,

> EPA has not used the opportunities presented by NEPPS to give States clear incentives for better performance. The agency has failed to establish a practice of making formal assessments of State performance and using these assessments to link performance explicitly to the level of Federal oversight and with the flexibility and program design and innovation. Such a policy would create strong incentives for improved States' performance.

Do you agree with NAPA's recommendation on the need for formal assessments and linking performance with the level of oversight and flexibility? If so, do you have plans to follow this recommendation?

Ms. BROWNER. Mr. Chairman, this program has been hugely successful. It is exactly what Congress envisioned, and it allows EPA to get out of the business of having every State do the identical list of things and allow States to develop their own list.

That was the first step in the process. It was not easy to do. I think we should all be proud of the fact that we have 40 States doing it now.

The second step in the process, which is not dissimilar from the work we are doing under GPRA, is to really go forward with an agreement on core measurements. This is a decision on how you measure progress. If you think it is difficult for us to do at EPA, imagine what it is like when you have 50 States trying to participate in it, each of them with a different history and a different future.

I think what NAPA is addressing is precisely that kind of accountability, that kind of measurement system. There are some States who welcome the opportunity to have a set of measurements. There are other States who just think we should give them the money and stop coming in to evaluate whether or not that money is helping them to achieve a set of objectives or core measurements.

It has been a healthy discussion with the States and it is ongoing.

I would just hope that the statement made by NAPA is valued as advice as to how we should go forward. In no way do I think it should be interpreted as saying that creating this kind of flexibility for the States was a bad idea. It has been a great thing.

ANIMAL FEEDING OPERATION: DRAFT STRATEGY

Senator BOND. No; I recognized that in the statement before I asked the question.

I was not sure that I received your answer and I jumped by too quickly on the CAFO's. What new requirements can small farmers expect from the draft AFO strategy?

Ms. BROWNER. The draft strategy does not articulate any specific requirements. It lays out a process that we will proceed under. It says that the first area of focus will be on the largest operations for which we estimate a program will be in place by 2002.

Senator BOND. That was what?

Ms. BROWNER. By the year 2002. The smaller ones would not be addressed until 2005.

Senator BOND. The ones that will be addressed are at what level?

Ms. BROWNER. That is part of the discussion. We are deciding where the cutoff should be in terms of number of head and whether it is poultry, pork, cattle, and so on.

Senator BOND. That's a different situation, then.

Ms. BROWNER. Yes; we agree.

Senator BOND. So right now, nothing is in the works for the small operator. The big operators can take care of themselves. The small operator, at this juncture, is not looking at any new EPA regulations on this?

Ms. BROWNER. The earliest would be in 2005.

Now I should caveat this. States are looking at these issues.

Senator BOND. Oh, yes; I realize that. I am just asking from you what EPA is looking at.

Ms. BROWNER. As part of the strategy we put out, we speak to both the large and the small operations. We lay out a timeframe in which we will focus on the large operations first, putting in place whatever the appropriate program structure is by 2002.

Now the answer you may be trying to get at is what distinguishes a big operation from a small one. That is part of what we are discussing with people—how many head is a big one, how many chickens are a big one. That is an unresolved issue.

Some States have already defined large and small and we are looking at that.

Senator BOND. All right.

I think that about concludes the questions that I have for the open hearing. We will provide more questions for the record. As I said, I believe that our colleagues have those questions.

I thank you very much.

Ms. Browner, did you have a statement you wanted to make?

Ms. BROWNER. I did want to raise one issue in closing. I think you and Senator Burns made reference to the inspector general's report on Austin Avenue. I want you to know that we share your concerns. We are looking into this matter.

I think that the choices are difficult ones, when you are working in residential communities. The decision to rebuild or not rebuild is a difficult decision. There were a number of meetings about this. There were a number of Senators and House members who felt very strongly that rebuilding was the appropriate option, given preservation of the integrity of the neighborhood.

ADDITIONAL COMMITTEE QUESTIONS

Having said all of that, I don't think any of us believes that rebuilding of this nature is appropriate and we will fully investigate that and take whatever actions are appropriate.

Senator BOND. Thank you, Ms. Browner, Mr. Hansen, Ms. Harper.

[The following questions were not asked at the hearing, but were submitted to the Agency for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR BOND

DATA QUALITY: RELIABILITY OF SYSTEMS

Question. What is planned specifically in the next year to begin improving the quality and reliability of EPA data systems, and how much is requested in your budget for this purpose?

Answer. EPA is undertaking a number of activities to improve the quality and reliability of its data systems. The Reinventing Environmental Information (REI) program provides a framework for many of these efforts. Under REI, EPA is developing both data standards and electronic reporting standards. Over the next five years all of the Agency's major systems will be revised to incorporate these data and electronic reporting standards. The Data standards will allow cross-media integration of data and improve reliability of the data. Electronic reporting will improve the quality and reliability of the data by eliminating errors associated with transferring information from paper to electronic form and will reduce duplication of data collected. In implementing standards and electronic reporting, many of the Agency systems will be re-engineered using state-of-the-art technology that will also improve reliability.

Through ECOS, EPA is working closely with the states on REI and other data quality issues. The One Stop program provides a framework for EPA and states to

coordinate their information needs and system development activities to reduce duplication and increase reliability.

EPA has adopted an aggressive strategy to ensure that Agency information technology assets will be compliant in a timely fashion. The Agency has established a Senior Y2K Council, under the direction of the CIO, to review progress, receive early warnings on potential problems, and take necessary action to avoid critical delays. An independent certification program has been established for mission critical systems to ensure compliance. The timetable the Agency has adopted conforms to the government-wide milestones established by OMB. The critical dates in the time-line include completing renovations for mission-critical systems by September 1998; validation by January 1999; and implementation by March 1999. This schedule allows for nine months of operation in a production environment to identify and fix any bugs.

The fiscal year 1999 budget request contains $18.15 million for the REI program and $6.1 million for Year 2000.

DATA QUALITY, GPRA, AND RIGHT-TO-KNOW ISSUES

Question. According to GAO, the availability of sufficient scientific and environmental data is a concern "critical to the credibility and success of the agency's strategic planning process." What is planned for fiscal year 1999 to address concerns about information gaps? What are the highest priority areas for filling data gaps and how are these reflected in the budget? How will EPA develop the baseline data needed to support the Results Act?

Answer. EPA is working to ensure that its baseline performance information is complete, accurate and consistent. Clearly, this is a long-term effort; but the agency is making good progress along several tracks. The Office of the Chief Financial Officer has recently completed a Data Quality/Gaps Evaluation to determine the availability of performance data and measures which are of adequate quality to track progress toward strategic objectives. By means of an agency-wide survey, it was revealed that funding was available to address data gaps in several program areas during fiscal year 1999. For example, the Office of Water has committed resources to develop measures of non-point source loads of nutrients and sediments to rivers and streams. This will support its tracking of progress in reducing runoff. In addition, the Office of Pollution Prevention and Toxic Substances will develop several measures of risk reduction and program effectiveness during fiscal year 1999. Other offices are undertaking similar efforts.

One of the agency's newest organizations, the Center for Environmental Information and Statistics (CEIS), is generating important information regarding existing EPA information sources and various environmental information needs. Specifically, the Center is comparing three major environmental data needs (i.e., (1) questions the general public asks about the environment, (2) agency performance as related to GPRA, and (3) state performance measures under the National Environmental Performance Partnerships Systems) and EPA data sources to identify and assess major data gaps. The CEIS intends to work with the program offices and other information customers to develop options to address these data gaps. In the past, funds have been available on a competitive basis to support program office efforts to fill data gaps.

In addition, EPA's Environmental Monitoring Management Council (EMMC) is developing a strategy for planning and conducting monitoring activities so that they support agency-wide strategic and programmatic needs. The strategy will be the foundation for improving the ability to accurately track progress toward environmental outcome commitments. The EMMC is interested in supporting long-term agency needs for data and information and identifying emerging data requirements.

The EPA recognizes that data quality can be improved and gaps need to be filled to effectively "measure for results." Improving the ability to measure performance is an Agency priority.

DATA QUALITY: ACCOUNTABILITY

Question. Who is held accountable within EPA for ensuring these critical issues concerning data quality and information gaps are addressed? Why has the Center for Environmental Information and Statistics been charged with addressing data quality (according to a February 4th memo on Reinventing Environmental Information) rather than the Chief Information Officer?

Answer. EPA's Deputy Administrator has asked the Agency's Chief Information Officer (CIO) to lead a new effort to develop a strategic action plan to address the issue of environmental quality. However, EPA's Center for Information and Statistics (CEIS) is currently staffed with experts on the interpretation and use of envi-

ronmental data and information. Their expertise extends beyond the technological factors that are the focus of the CIO. For that reason, the CEIS continues to lead the effort to assess data gaps and plans for the secondary uses of environmental data.

NAPA: RECOMMENDATION ON ENVIRONMENTAL INFORMATION

Question. In 1995, NAPA recommended establishment of a separate bureau or office of environmental information. Yet EPA ignored NAPA's recommendation that a new center for environmental information and statistics be established independently of a program office. According to NAPA, "The location (within the Office of Policy, Planning & Evaluation) effectively reduces the center's autonomy from the agency's regulatory and program activities and thus compromises the center's ability to establish itself and its data as credible and objective." Why did EPA ignore the concerns raised by NAPA? What is the purpose of this new Center, what is its role in addressing critical issues of data quality and availability for decision-making, and why is it not under the Chief Information Officer?

Answer. It is EPA's understanding that creation of a separate, independent bureau or office would require legislation. Rather than delay the very important work of the Center, and subject its future to the uncertainty of legislation, the Administrator created the Center through a reorganization of the Office of Policy, Planning and Evaluation (OPPE). By establishing standards for data quality and suitability for information distributed by the Center, and subjecting those standards and Center products to a public, technical peer review process, we are confident that the credibility and objectivity of the Center's analysis and information products will be established and maintained. We have been working with staff of the National Academy of Public Administration as we have developed the organization and mission of the Center.

The Administrator chose OPPE as the organization to house the Center because the Office is best prepared with the expertise and staff to carry out the Center's mission. OPPE has long worked on environmental statistics, environmental indicators, and presentation of environmental information in the predecessor organizations to the CEIS: the Center for Environmental Statistics and the Environmental Information Division with the Office of Strategic Planning and Environmental Data.

There are many information-related activities with EPA which do not report directly to the Chief Information Officer (CIO), but which are coordinated and overseen by the CIO. The Center is working closely with the CIO; in particular, the CIO co-chairs the CEIS Steering Committee with the Assistant Administrator for Policy. The AA for Policy is also a member of the Agency's Executive Steering Committee for Information Resource Management, which is chaired by the CIO. The CIO has been charged by the Administrator with ensuring the overall quality of the Agency's data, and the Center will join the rest of the Agency in helping the CIO to develop and implement a data quality plan.

The Center's mission is to provide the public with information on environmental quality, status, and trends. An important component of this mission is the Center's work to assess the suitability of EPA's databases, and other potential sources of data, for use in providing the public with such information. As part of all of its products, the Center will provide an explanation of the source and quality of the data used to compile the information presented. The Center's assessments will also be used by Agency management to inform decisions regarding collection, management and use of environmental data.

RIGHT TO KNOW: INVENTORY OF INFORMATION

Question. Does EPA have a comprehensive inventory of all the information resources, public documents and software tools that it has produced, endorsed, or funded? Whose responsibility is this? Does EPA have a comprehensive inventory of all the information it currently collects?

Answer. EPA has no single inventory of all those resources. They are accounted for in separate inventories. Software and data systems are inventoried under the Information Systems Inventory managed by the Office of Information Resources Management (OIRM). EPA publications are inventoried in the National EPA Publications Catalog managed by EPA's National Center for Environmental Publications and Information. In addition, work is underway for an inventory of EPA regulatory guidance materials under an effort managed by the Office of Enforcement and Compliance Assurance. OIRM plans to extend this inventory to include all public documents available on the EPA Web site. The inventory of all information collected by EPA is managed by the Office of Policy, Planning and Evaluation as part of EPA's

regulatory paperwork burden management activities under the Paperwork Reduction Act.

RIGHT TO KNOW: ACCURACY OF INFORMATION

Question. In the push to carry out right-to-know activities at the program level, what controls do you have in place to ensure that the information provided the public is accurate, complete, and put in the proper context to avoid raising undue concern or inappropriate use of the data? Whose responsibility is this? Have you established any standards as to the accuracy, completeness, reliability, or proper context that data must meet before it is made available to the public? What steps does EPA have in place to correct information errors? Who is responsible for this?

Answer. EPA is committed to improving the accuracy and completeness of the information it provides to the public. At the same time, the Agency also is committed to making its information publicly available unless there is a specific statutory basis for withholding the information. To put information into proper context and to enhance understanding, EPA is expanding access to and availability of metadata on Agency information, that is descriptive information such as definitions, origin, source, and any data describing how, why, or when the data was collected including indications on the accuracy of the data or its precision. The Agency is also striving for continuous improvement in quality of information, recognizing that no set of information will be completely free of errors and inadequacies. Feedback from the public and from regulated entities is an important part of the information quality improvement process, as stakeholders often are best able to recognize and comment on errors. When information is not publicly available, EPA loses the benefits of such feedback.

All stewards of public information in the Agency share responsibility for ensuring that the information they manage is as accurate and complete as feasible, and that a sound basis is provided for others to interpret the information. EPA's Office of Research and Development manages the data quality process for scientific data, which requires that data managers throughout the Agency develop data quality objectives for their data and manage their programs to meet these objectives. EPA's Center for Environmental Information and Statistics has been meeting with stakeholders and developing programs to provide and interpret environmental information for the public.

Finally, EPA's Deputy Administrator has recognized the need for more improvements in this area. By memorandum of 29 April 1998, he charged the Chief Information Officer (CIO) to lead an "effort to develop a strategic action plan to implement an Agency-wide approach to ensuring the quality of our data." This plan is to be submitted for approval no later than 30 September 1998. The plan should develop a systematic, Agency-wide approach for correcting information errors and assign specific accountability for all major tasks. Thus, the Agency has acknowledged the need for more focused effort to address information and data quality and has initiated a process, led by the CIO, to address this issue with a specific action plan.

DATA QUALITY: MISUSE AND MISCHARACTERIZATION

Question. If EPA is made aware of the misuses or mischaracterization of environmental data by third parties, what steps is EPA taking to stop such behavior and prevent its recurrence?

Answer. EPA has no editorial control over the use of publicly available environmental data by third parties. If the Agency were made aware of a misuse or mischaracterization of EPA environmental data or information by a third party, the Agency could request that the third party publish a disclaimer or retraction of the misused data so as to clarify that EPA does not agree with the third party's use of EPA's data. The Agency could also pursue other legal remedies depending on the impact of the third party's actions. EPA has standard procedures, provided in our authorizing statutes, for pursuing claims where the confidentiality of the data provider has been violated, or where there is an endangerment of public health or significant environmental impact, as a result of the misuse or mischaracterization of the Agency's data.

RIGHT-TO-KNOW: INFORMATION FOR CITIZEN

Question. What steps are being taken to obtain an understanding of the priority information needs of the average citizen? How much research and analysis of public information needs has EPA conducted? Have those established the priority needs of the average citizen or have they identified the areas of potential interest?

Answer. In July, 1997, EPA embarked on a national customer survey to obtain an understanding of the environmental information needs of the average citizen.

The Agency started the survey by drafting a peer-reviewed, four-year, Customer Survey Plan. The Plan called for four phases of survey activity starting with those who are very familiar with EPA information resources, and then eventually surveying the needs of those who are unfamiliar with the Agency's information resources. Phase I and II started with convening meetings with information users who are familiar with EPA's existing information resources. Phase III involved regional meetings with user groups in each EPA region. Phase IV would survey the general public's information needs.

Participants in Phase II and III, indicated that they needed an array of environmental information products, ranging from quality-assured, data sets to comprehensive, multi-media reports on environmental quality, status and trends at the national, state and local level. Many encouraged EPA to make information available via the Internet, printed reports and telephone (staffed by knowledgeable people, not just voicemail).

In late March, 1998, EPA announced a plan to undertake a national telephone survey to ask "average American households" about their environmental information needs and their access preferences (Federal Register, March 30, 1998) for Phase IV of the customer survey. EPA plans to complete these telephone surveys and report our survey findings by early 1999.

The Agency's customer survey also involves an extensive review of current literature and findings from other organizations' research in this area.

RIGHT-TO-KNOW INTERNET SECURITY

Question. With respect to Right-to-Know concerns, EPA's plans to publish on the Internet data about chemical storage sites and "worst-case scenario" information [e.g., the most devastating potential accident and plans to respond to such an incident] has many security experts concerned. According to a recent "USA Today" article, "FBI agents say putting the data on the Net creates a blueprint for chemical mayhem." What is the status of EPA's plans to publish Clean Air Act "risk management plans" on the Internet? Given the sensitive nature of this information, what accounts for EPA's enthusiasm for publishing the data on the Internet, rather than keeping the information in libraries, for example? What is EPA doing to work with the National Security Agency, FBI and other relevant agencies on this critical issue?

Answer. In September 1996, EPA established a Subcommittee under the Federal Advisory Committee Act to provide stakeholder advice and counsel on scientific and technical aspects of CAA 112(r). Since May 1997, the Subcommittee has been addressing the issue of whether to post "worst case scenario" data on the Internet. In February 1998, nine of ten Subcommittee members recommended that EPA post the worst case scenario data on the Internet with several safeguards to begin to address potential misuse of the information. This recommendation was based on several factors: (1) by law the information must be made publicly available; (2) the Internet is the most efficient and cost effective method of information dissemination; and (3) under the Freedom of Information Act (FOIA) law, anyone can request the RMP data in electronic format and post it on the Internet themselves (Environmental groups have said they will post the RMP data if EPA does not).

EPA has worked closely with the President's Commission on Critical Infrastructure Protection, FBI, DOJ, CIA and DOD to obtain their insight into a potential solution. Currently, EPA is working with these Federal partners to explore technical options and safeguards that will result in minimal risk. A final decision will be made in collaboration with other Federal agencies.

RIGHT TO KNOW: SECURITY CONTROLS

Question. Considering your efforts to make more data available to the public on the Internet, what controls do you have to protect the security of the data from intruders or hackers, particularly in view of the Sept. 1997 I.G. report which found several cases of hacker intrusion?

Answer. EPA employs multiple security mechanisms to protect data from intruders or hackers.

For the Network.—Physical access to EPA's internal network is controlled by requiring that data reside in EPA (leased or owned) facilities and we allow only one connection between the Agency's internal network and the Internet, and protect this connection with a "firewall".

Access to privileged commands on the network infrastructure is restricted to a small number of key individuals. EPA's network router audits trails daily for activities that could indicate the presence of an intruder or a hacker on the Agency network. Suspected problems are quickly followed up with the appropriate internal and external security groups, the Inspector General, and law enforcement groups, if nec-

essary. EPA monitors and implements the appropriate security alerts and controls recommended by government and industry security groups. As such, EPA has installed direct controls on the Agency firewall router which is the single point of connection between EPA and the Internet. These targeted controls ward against anti-spoofing, discovery of the topology and structure of our network, blocking NetBt and SNMP, and other items recommended by national security organizations.

Finally, the EPA contractor and Federal Network Information Technology staff maintain a constant state of training and alert status relative to the technical aspects of state-of-the-art networking, network security, and damage/waste prevention.

For the Public Access Server.—EPA controls physical access to the computer systems on which the public access data resides. For purposes of data update, the Agency also limits network access to the system to registered users, coming from registered Internet addresses.

Access to privileged commands is restricted to system administrators on a need-to-use basis. EPA employs Class C2 security on all our central systems, in accordance with the Department of Defense Trusted Computer System Evaluation Criteria, DOD 5200.28–STD (commonly called "The Orange Book"). All central systems separate user data areas from those of the operating system, and maintain separate access controls for each user's data. The data for each user and project is only modifiable by users and groups authorized by the user owning the data.

The Agency maintains audit trails of significant system events (login successes and failures, failed access attempts against system level files, and privileged command use), and reviews system audit trails routinely to detect potential threats to system, application, or data integrity. Further, the Agency records checksums on important system files and use automated monitoring for any change to alert us to possible tampering.

Operations staff monitor the public access systems twenty-four hours a day, seven days a week, to assure their availability and integrity. Security alerts are monitored from government and industry security groups. As a result, EPA regularly installs software patches and initiate procedures necessary for system and data security.

Persistent intrusion attempts are detected occasionally, as we did in both the incidents reported by the Inspector General and in other situations where no actual intrusion occurred. If any intrusion does occur as a result of previously unidentified security vulnerabilities (e.g., in system software), situation-specific steps are taken to contain and then eliminate the intrusion. Its impact is then assessed and its effects reversed, restoring data and service as expeditiously as due diligence allows. The Agency also maintains backup copies of all data, including off-site copies, to prevent data loss for any reason.

OMB: ESTIMATE OF PAPERWORK BURDEN

Question. What is the current OMB estimate of paperwork burden imposed by EPA reporting requirements? What steps will be taken to reduce the burden as required by the Paperwork Reduction Act? Will EPA's burden reduction strategy include efforts to reduce duplication between EPA programs? Will it include efforts to adjust reporting obligations based on a company's good compliance record?

Answer. The OMB estimate of EPA paperwork burden hours was 115,228,215 hours on March 31, 1998. EPA has been engaged in a continuing effort to reduce paperwork burden since early in 1995. The Paperwork Reduction Act (PRA) sets government-wide reduction targets beginning October 1, 1995 of 10 percent each year for two years, and then 5 percent each year for the following four years. To date, EPA has reduced burden hours from collections included in its October 1995 baseline by 14.5 million hours. This reduction has been offset by burden increases of 25.6 million hours, including over 14 million hours of non-rule increases primarily due to adjustments and updated estimates of burden numbers. In addition, EPA has identified approximately 13 million hours of reductions and 11.4 million hours of increases (e.g. PCB Disposal rule: 7.0 million hours, and Lead-based Paint Renovations rule: 2.2 million hours) that will occur in the near future.

Additionally, prior to the PRA mandate, EPA began a major burden reduction effort. From January 1 through October 1, 1995, the Agency eliminated 6.7 million hours from the collections included in its January 1, 1995 baseline. These reductions were also offset by increases to the baseline of 34.3 million hours, including 9.0 million hours in recalculations and 8.7 million due to third-party collections required because of definition changes in the PRA of 1995.

The Agency also has underway a Reinventing Environmental Information (REI) Plan that will provide the public with significant burden reductions due to universal access to electronic reporting, better integration of state and EPA reporting require-

ments, and use of common data standards across EPA programs. This plan is being implemented over a five-year period.

The REI Plan includes a number of steps which will promote the identification and elimination of duplicate reporting and record keeping across programs. For example, EPA is investigating options for the design of a central data receiving function for acceptance of status and compliance reports. This effort would include identifying and registering each data element required by a program in an environmental data registry. This registration process would identify unique data element needs, and enable duplicates to be eliminated. For many common descriptors regarding facilities and chemicals, EPA will be adopting cross-program data standards that all programs will be required to use. The central data receiving function would receive all data sets, and respond to program office requests for specific subsets of data. Reporters would submit each data element only once, but it could be retrieved multiple time by programs throughout the Agency. In addition, the REI plan identifies steps that EPA is taking to provide universal access to electronic reporting, including web-based reporting for small businesses. This technology provides recall of previously submitted data, and enables simplification and consolidation of old reporting formats.

In 1996 EPA published guidance that allows water quality reporting to be scaled back for facilities with proven records of environmental performance. When fully implemented by the states, this guidance could reduce NPDES monitoring and reporting burden by about 4.5 million hours, or 25 percent. EPA has also taken additional steps towards rewarding good performance in the Project XL program and in development of the Hazardous Organic NESHAP. EPA is now beginning a comprehensive review of our major reporting requirements to identify additional opportunities for application of this approach. We expect this review to be completed by the end of August, 1998.

EPA'S ENFORCEMENT GOAL

Question. Why is enforcement a goal in and of itself? Shouldn't enforcement be a policy tool used to achieve environmental results, rather than a goal in and of itself? Why are the number of inspections a measure of success?

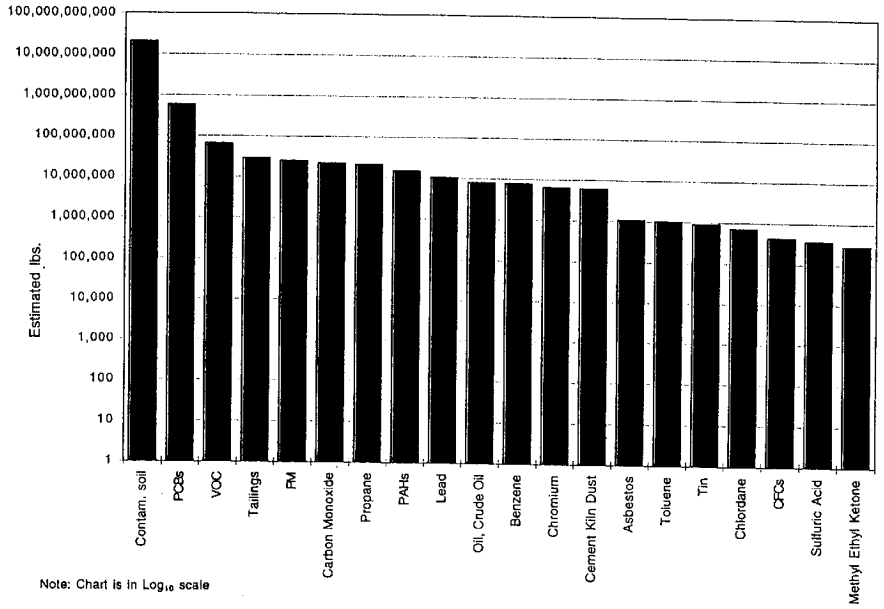
Answer. Enforcement is not the goal. The goal is "Credible Deterrent and Greater Compliance with the Law." The goal provides the Agency's law enforcement and compliance assurance organization with objectives for achieving deterrence and a high level of compliance. Achieving this goal requires not only government, but private party involvement.

While the Agency recognizes there is considerable overlap between the objectives of this goal and those of the media goals, meeting the Agency's deterrence goal requires a multi-media approach that corrects problems in a holistic way, rather than shifting one media pollution problem to another. EPA has learned that the Agency needs to approach compliance on a cross-media, industry sector basis, using a full range of monitoring, enforcement and compliance assistance and compliance incentive tools. The Agency focuses on those civil and criminal cases which promote human health and the environment and a level playing field for the nation's industry, regardless of the media involved.

With regard to your last question, the Agency has moved beyond simply tracking outputs like inspections. In January 1997, the Office of Enforcement and Compliance Assurance (OECA) initiated the National Performance Measures Strategy to develop and implement an enhanced set of performance measures for EPA's enforcement and compliance assurance program. The final report issued in January 1998 describes the enhanced set of performance measures and a plan to implement these measures is underway. OECA is collecting outcome data, such as environmental results from enforcement actions, and reporting this data in the annual Enforcement Accomplishments report. Attached is a chart from the fiscal year 1997 report showing pollutant reductions from EPA enforcement actions.

However, output measures such as the number of inspections conducted, civil or criminal cases referred and penalties assessed, will remain important measures of program performance and accountability. The Agency will continue to need these kinds of measures because they assure the public of the government's presence, they provide accountability for Federal, state and local performance, and they give EPA important information about how our strategies are working.

Twenty Pollutants with the Largest Reductions Reported for FY 1997



Note: Chart is in Log_{10} scale

Pollutants	Lbs. Reduced
Contam. soil	20,084,256,000
PCBs	576,585,299
VOC	62,561,690
Tailings	28,000,000
PM	24,455,376
Carbon Monoxide	21,502,000
Propane	20,014,000
PAHs	14,400,000
Lead	10,297,306
Oil, Crude Oil	7,879,256
Benzene	7,665,560
Chromium	6,329,007
Cement Kiln Dust	6,000,000
Asbestos	1,055,185
Toluene	997,581
Tin	899,640
Chlordane	700,833
CFCs	427,297
Sulfuric Acid	359,481
Methyl Ethyl Ketone	277,270

There were 3,738 civil and 127 criminal settlements/conclusions in FY 1997. In 1,085 of these cases (28%), at least one pollutant was listed as being reduced. Of the 1,085 cases which listed a pollutant, an estimate of the amount of pollutant reducted was reported for 411 cases (11% of FY 1997 settlements).

ENFORCEMENT: ENVIRONMENTAL QUALITY

Question. What is EPA doing to assess to what extent specific enforcement actions or compliance actions improve environmental quality, in order to make programmatic decisions on that determination?

Answer. The Agency is conducting a pilot project on case conclusion data sheets (CCDS) as a result of recommendations made by the Measures of Success Workgroup in March 1995. Under this project, EPA collects the following information for concluded administrative and judicial enforcement actions:

—Expected costs of compliance (i.e. injunctive relief costs);
—Type of actions taken to comply (e.g. industrial process change, emissions reduction, training);
—Names and amounts of pollutants to be reduced, prevented or controlled;
—Qualitative nature of the impact (e.g. human health or ecosystem protection); and,
—Details on Supplemental Environmental Projects, including costs and environmental benefits such as above.

In fiscal year 1995, EPA collected information on all concluded judicial orders and on compliance orders with penalties. In fiscal year 1996, EPA expanded the collection to include all administrative and judicial actions regardless of accompanying penalty.

Information from the data sheets was compiled and included with end of year reporting for 1995, 1996, and 1997. This information has been summarized and widely distributed to managers in the Agency. It has also been released publicly.

Additionally, one of the tasks under the National Performance Measures Strategy, which grew from a series of national stakeholders meetings with industry, environmental, community, academic, governmental and media groups (announced with the end-of-year press release in December 1997), is to conduct an evaluation of the case conclusion or expected environmental benefit data and the processes for creating that information, and to enhance its comprehensiveness and accuracy. The majority of this evaluation will be concluded by the end of fiscal year 1998.

GPRA: PERFORMANCE GOALS

Question. How do the performance goals and measures in your annual performance plan reflect the need to ensure that we can assess EPA's performance on one level—that is, what improvements are directly attributable to EPA's actions—and, on another level, track the progress that the nation, as a whole, is making in protecting the environment?

Answer. We believe we have struck a careful balance in articulating our array of annual performance goals (and corresponding performance measures), in relation to our more long-term strategic objectives. We have tried to express the latter in terms of real "environmental outcomes," that is, tangible, measurable improvements in environmental quality and/or public health protection that are meaningful to American citizens. In casting our longer-term objectives in such measurable terms, however, we recognized the accompanying long-term challenges to: (1) achieve the ambitious targets we have set for ourselves; and (2) perfect the capability to accurately measure improvements in key parameters of environmental quality, particularly the measurement of the specific contributions of environmental-protection efforts to general trends. Consequently, shorter-term measures of annual performance will tend to be in output terms, more directly linked to the resources expended, at least for the first iterations of Annual Performance Plans.

Consequently, most of the performance goals and corresponding performance measures for the fiscal year 1999 Plan are cast in terms of direct outputs associated with the expenditure of agency resources. We have made an effort to express some key performance goals as discrete incremental progress toward longer-term environmental-quality gains, and, as our capability to measure and achieve such tangible gains in other areas improves, we intend for successive Annual Plans to contain a higher proportion of these outcome-based performance goals. Part of our commitment to implement GPRA is to institute an ongoing "multi-year planning" effort in each of our 10 goals, with an explicit purpose being a "roadmap" for improving our performance goals.

GPRA: PERFORMANCE GOALS OVERLAP

Question. Under specific strategic goals covered in the performance plan, EPA lists as performance goals various activities and actions that appear to be relevant to other strategic goals. For example, under strategic goal 7, "Expansion of Americans Right-to-Know About Their Environment," EPA lists performance goals that

clearly involve water program and enforcement activities covered under other parts of the plan. Is there an overlap that needs to be/has been recognized and if so, how? Please be as specific as possible in your response and also address the budget implications, i.e., how any overlap has been addressed concerning the budget amounts requested for any specific program activities involved and the resources being applied to achieve the respective goals.

Answer. Some degree of "cross-cutting" categorization is inevitable in trying to present an annual plan that simultaneously addresses the entirety of the Agency's activities and highlights the most significant achievements in a systematic manner. You will note that in Chapter 5 of the Strategic Plan (pp 80–88) the Agency highlighted six specific themes that cannot be adequately captured by the presented set of strategic goals and objectives. Likewise, as you note, activities among the 10 goals and 45 objectives sometimes overlap.

We have carefully aligned the Agency's resources in a strictly "linear" fashion according to the array of goals and objectives presented; we have painstakingly avoided "double counting." We do not believe any overlap in resource allocation exists, since the sum of budget components allocated to the objectives cannot exceed the Agency total.

Since the array of goals and objectives are cross-cutting, programs have to make decisions about how best to represent their activities. For instance, water program activities that relate to improving the public's understanding of local surface-water conditions or specific public water supply conditions are accounted for under Goal 7, even though the bulk of water program activities appear under Goal 2.

GPRA: KEY EXTERNAL FACTORS

Question. The September 1997 strategic plan identifies "key external factors" that influence EPA's ability to achieve its goals and objectives and over which the agency notes it has only partial control or little influence. Important among these are the partnerships EPA says it relies heavily on with states, tribes, local governments and regulated parties. In many cases, it appears that the achievement of a program's goals would be highly dependent on such relationships. How does the performance plan recognize this condition in establishing performance goals and measures?

Answer. Many of the Agency's core environmental protection activities are delegated to the states and tribes, and entail risk management measures performed by regulated entities. The Agency relies on the performance of these key parties to produce the gains in cleaner air, water and land that the Agency seeks for the nation. Consequently, among the performance goals and measures the Agency reports in its fiscal year 1999 Annual Plan are those activities which states and tribes perform and report to the Agency as part of state grant assistance (e.g., "core measures" and associated reporting requirements provided in the National Environmental Performance Partnership System).

However, the preponderance of the goals and measures specified in the Plan are associated directly with Agency activities. In part, the selection of annual goals and measures is guided by the imperative to represent as closely as practicable the actual activities performed by EPA during the fiscal year. For practical purposes, this means the preponderance of reported performance targets relate to those activities for which the Agency is directly responsible. For example, the goals and performance indicators specified under Goal 9 ("Credible Deterrent and Greater Compliance") exclusively represent the planned activities, workload and accomplishments of EPA's compliance and enforcement staffs, and not the totality of nationwide compliance and enforcement activities.

SRF: MOVEMENT OF FUNDS BETWEEN THE SRF'S

Question. In fiscal year 1999 states can move up to one-third of the drinking water SRF appropriation to their clean water SRF. And this same dollar amount can be moved from clean water to drinking water SRF's. To what extent is it anticipated that states will move funds between SRF's?

Answer. Three states (New York, Colorado, and New Jersey) have definite plans to transfer funds from the Clean Water to the Drinking Water State Revolving Fund in fiscal year 1999. Currently there is no state transferring from the DWSRF to the CWSRF. Several other states have indicated interest in transferring but do not have definite plans at this time.

DRINKING WATER STATE REVOLVING FUND: SET-ASIDES

Question. States may make expenditures only from their fiscal year 1997 drinking water SRF grant to perform source water assessments required by the 1996 Amendments. How many states have taken advantage of this SRF set-aside? In general,

would you please give an overview of the extent to which states are intending to use the various SRF set-asides?

Answer. Although not every state has yet been awarded Drinking Water State Revolving Funds (DWSRF), we do have information from all of the states on their intent regarding the DWSRF set-aside provisions authorized in the 1996 Amendments to the Safe Drinking Water Act. With respect to the set aside for source water assessments (a subset of 1452(k)), 42 states and Puerto Rico are taking or expect to take the full 10 percent allowed by law and the remaining eight states will or are taking between 3.6–8.0 percent of the set aside.

The following are some general data compiled from the states; the number of states (plus Puerto Rico) that are expected to take the set asides is shown in brackets:

The average use of set asides for all grants (awarded and unawarded) is expected to be 22 percent out of a maximum 31 percent allowed.

The average use of the 1452(k) set aside to fund local assistance and other state activities (loans for source water protection measures, source water assessments, capacity development, wellhead protection) is estimated at 12 percent (maximum is 15 percent, with no one activity more than 10 percent). [51]

The average use of the set aside to administer programs under section 1452 is expected to be 4 percent, which is the maximum allowed. [51]

The average use of the set aside to provide technical assistance to small systems is estimated at 2 percent—the same as the maximum allowed in the statute. [47]

The average use of the 1452(g)(2) set aside to conduct state program activities (PWSS program, capacity development, operator certification, source water protection) under section 1452 is expected to be 5 percent (maximum allowed is 10 percent). This set aside requires a 1:1 match by the state. [36]

To date, 30 states have completed the application process and received all or a portion of their DWSRF allocation. We expect that the remaining 20 states and Puerto Rico will be awarded their DWSRF monies by September 30, 1998.

CLEAN WATER ACTION PLAN: CAFO'S AND AFO'S

Question. Earlier this year, the Vice President announced the Clean Water Action Plan, an interagency initiative aimed at improving water quality with a particular emphasis on a watershed approach and nonpoint sources of pollution. As part of the Clean Water Action Plan EPA plans to focus efforts on regulating livestock waste, so-called CAFO's. How much of the total budget request is to be allocated to developing and implementing the Animal Feeding Operations strategy, and would any of these funds be used to assist farmers in complying with new requirements?

Answer. Of the $145.0 million requested for the Clean Water Action Plan (CWAP), $4.0 million is designated to assist with the implementation of agency activities that will result from the U.S. Department of Agriculture and U.S. Environmental Protection Agency Joint Unified National Strategy on Animal Feeding Operations (AFO's). These resources will be used to support EPA and the States' efforts to implement CAFO requirements through the NPDES program, including for example, improved tools and training for permitting of CAFO's. These funds will not be used directly to assist farmers in complying with any potential new requirements.

The Clean Water Action Plan includes significant increases in the funding requested for EPA and USDA financial assistance programs, which may assist farmers in complying with any new AFO requirements. EPA provides grant money to the states for demonstration projects, education, and technical assistance through the nonpoint source grant program under Section 319 of the Clean Water Act. Compared with other nonpoint sources, agriculture related projects received the largest percentage of funding through Section 319 grants, about 34 percent in fiscal year 1995. EPA is requesting a total of $200 million for 319 funding in fiscal year 1999. Half of the funding of USDA's Environmental Quality Incentives Program (EQIP) is allocated to the livestock sector. Currently $100.0 million is available through this cost-share program to help livestock producers implement management practices that will be encouraged in the Joint Unified National Strategy. Some of these same practices could eventually be required under the potential revision of the Combined Animal Feeding Operations (CAFO) regulations. Of the $194.0 million increase requested by USDA for the CWAP, $100.0 million is for EQIP in fiscal year 1999.

Question. Under your proposed strategy on AFO's what type of regulatory requirements could small producers expect?

Answer. The regulatory process is just beginning so we do not yet know in detail how the regulations will be revised, and how they will vary by size of facility. We do expect the regulatory requirements to focus on large facilities and others collec-

tively determined to be contributing to water quality problems based on a watershed assessment.

CWAP: ENFORCEMENT OF FARMING INFORMATION

Question. Concerns have been raised that EPA's enforcement office is aggressively attempting to get "farmer information" or lists from NRCS in different regions of the country for the intent of pursuing enforcement cases against farmers. If true, this would have a chilling effect on farmers who are voluntarily seeking assistance from USDA cost-share programs to improve environmental quality. Could you comment on that or look into that and see to it that records are not obtained by EPA for that purpose?

Answer. The Environmental Protection Agency (EPA) understands the concerns that have been expressed, and is currently working with the United States Department of Agriculture (USDA) to address this issue. The USDA and EPA have not come to closure on this matter yet, but EPA does not intend to aggressively obtain NRCS data regarding specific farms to pursue enforcement cases against farmers. EPA's position is further explained in the attached letter signed by Steven A. Herman, EPA's Assistant Administrator for the Office of Enforcement and Compliance Assurance on May 29, 1998, to the National Association of Conservation Districts. This issue is also addressed by USDA/EPA's Unified National Strategy for Animal Feeding Operations Reported released September 17, 1998. USDA and EPA are continuing to work on this important issue.

CLEAN WATER ACTION PLAN: AGROFORESTRY SYSTEMS

Question. EPA will be spending $2 million on a project I included in last year's funding bill to demonstrate the multiple benefits of agroforestry systems in the flood plains. These benefits include nonpoint pollution mitigation but it also has benefits of flood control, wildlife habitat and an additional income source for farmers. Do you envision this type of win-win management practice as a good use of nonpoint resources?

Answer. EPA agrees that these types of systems can have economic and environmental benefits. The project to which you refer should yield positive results relating to nonpoint source pollution, as well as economic benefit to the agroforestry producer. It appears that the project has the potential to positively blend commodity production with agricultural chemical/sediment runoff reduction, resulting in cleaner water.

Agroforestry practices include streamside buffer strips, streambank bioengineering, alley cropping, windbreaks, tree/pasture systems, tree/specialty crop systems, living snowfences, forest farming, waste disposal systems, and wildlife habitat plantings. These practices improve water quality and protect soil, water, wildlife, roads, buildings, and recreational areas. For example, streamside buffers filter pollution from adjacent land, reduce bank erosion, protect aquatic environments, enhance wildlife, and increase biodiversity. Many of the practices are fully adaptable for use in cities and rural communities.

Agroforestry holds great promise to enhance the vitality of farm enterprises and rural communities, while addressing societal concerns such as soil erosion, water quality, and biodiversity. It is important to bear in mind, however, that agroforestry despite its benefits is not always the appropriate land use strategy. States, Tribes, and local governments, working with all their stakeholders, should carefully assess the characteristics and needs of their watersheds before funding or otherwise promoting a particular practice, including agroforestry. In the context of water quality and biodiversity, the potential benefits of agroforestry should be analyzed relative to current or projected alternative land uses. While agroforestry will generally provide higher water quality and biodiversity benefits than row crop agriculture or more intensive development, it will almost always yield lower water quality and biodiversity benefits than native forests, grasslands, or wetlands.

CWAP: AFO RESEARCH

Question. In the Conference Report to accompany H.R. 2158 for fiscal year 1999, the EPA was directed to coordinate its research activities on air quality impacts resulting from swine confinement operations with those currently underway at the Agricultural Research Service and other public and private research efforts. How much does EPA currently spend on research that relates to animal feeding operations and what research is currently being emphasized?

Answer. The State of North Carolina is in the process of providing the Environmental Protection Agency's Office of Research and Development (EPA/ORD) with resources of $92,500 for conducting air emission measurements from swine farms and

preparing a report that compares alternative measurement approaches and results. In addition, EPA/ORD has expended approximately $50,000 in the development of an improved method being used for conducting the measurements.

Question. Is there adequate coordination with the ARS?

Answer. EPA/ORD is conducting measurements of ammonia, methane, and other pollutants being emitted from swine farms at the request of the State of North Carolina's Department of the Environment and Natural Resources (NCDENR). The U.S. EPA's Office of Air Quality and Planning (OAQPS) is also working with the NCDENR. All of this work has been coordinated with the U.S. Department of Agriculture (U.S.D.A.). Industry is cooperating with the program. There are periodic meetings with all participants, and EPA/ORD has representatives at each meeting. The U.S.D.A. has coordinated all interactions with the farmers. Periodic progress reports are prepared, and these are made available to each participant. The results from EPA/ORD's test program will be documented and the report will be peer reviewed and will undergo EPA/ORD's administrative review prior to release. This document is expected to be completed by the winter of 1998–99.

There has been frequent communication between EPA/ORD and U.S.D.A. while these measurements have occurred. The EPA/ORD has always been careful to coordinate its efforts through the State of North Carolina and U.S.D.A. and will continue to do so. The EPA/ORD appreciates the opportunity to work with the U.S.D.A. There have been meetings of a U.S.D.A. Air Quality Task Force in Amarillo, Texas, and representatives from the State of North Carolina were requested to attend but to our knowledge EPA was not.

CLEAN WATER ACTION PLAN: ANIMAL FEEDING OPERATIONS (AFO'S) STRATEGY

Question. Please explain in detail how EPA will use the funds requested for the Animal Feeding Operations Strategy.

Answer. EPA will use the $4.0 million in the funding request to implement the USDA/EPA Joint Unified National Strategy on Animal Feeding Operations (AFO's). The Strategy will be targeted at both point and nonpoint source contributions. EPA and USDA expect to publish the strategy for public review and comment in July 1998 and to finalize it in November 1998. Implementation activities may include: a review of state animal feeding operation programs; an economic analysis of different aspects of the livestock industry; and collection and analysis of data on animal feeding operations. These monies will also help support development of revised regulations (NPDES permitting regulations and the effluent guideline) and efforts to improve permitting of CAFO's.

PM: DECREASE IN RESEARCH

Question. EPA is requesting about $485 million for the Office of Research and Development, a decrease of almost $50 million below fiscal year 1998. While there are increases proposed in some areas—such as the right-to-know initiative referred to as EMPACT—there are a number of decreases, the largest being research on fine particles.

According to EPA's Science Advisory Board, EPA is requesting less than it needs to get the job done. The ORD budget request, adjusted for inflation, would represent the low point for ORD's budget in the 1990's. If EPA is truly committed to making science-based regulatory decisions, and in view of the increasing complexity of environmental issues, why is research and development not a higher priority within EPA's budget, particularly in view of the fact that so many regulatory and programmatic activities are slated for increases?

Answer. As always, EPA is committed to having a regulatory program based on sound science and thus continues to support a strong research program. This includes a strong particulate matter (PM) program with a fiscal year 1999 President's Budget request of $28.7 million. The decrease to the Office of Research and Development's (ORD) Science and Technology budget in fiscal year 1999 comes as a result of not carrying forward fiscal year 1998 Congressional add-ons. The Agency has a policy not to request continuation of Congressional add-ons. The discontinuation of these add-ons results in an initial decrease to ORD's budget of over $70.0 million. The largest of these earmarks is the Comprehensive PM Research add-on at $23.0 million.

Despite the discontinuation of the Comprehensive PM Research add-on, EPA's President's Budget request exceeds the NRC's recommendation for combined PM research funding for fiscal years 1998 and 1999. To summarize, the NRC recommends $39.6 million in fiscal year 1998 and $45.7 million in fiscal year 1999 be spent on PM research to address their highest priority research areas for a total of $85.3 million. EPA has in its fiscal year 1998 Enacted Budget $50.2 million for PM research

(plus an additional $5.2 million in certain Congressional "add-ons"). For fiscal year 1999, the President's Budget Request includes $28.7 million for PM research within EPA's Office of Research and Development and $15 million for monitoring "super sites" within EPA's Office of Air and Radiation; a total of $43.7 million related to PM research needs in fiscal year 1999. EPA's combined PM research-related budget for these two years is $93.9 million (plus an additional $5.2 million in certain Congressional "add-ons" for 1998 enacted).

In addition to a strong PM program, EPA has continued to invest in sound science through increases to other high priority research programs. These include: Global Climate Change, the Science to Achieve Results (STAR) Program, the Advanced Monitoring Initiative (AMI), Environmental Monitoring for Public Access and Community Tracking (EMPACT), and the Agency's Post-Doctoral initiative. These and other investments in the S&T account continue to ensure science-based regulatory decisions.

PM: NAS REPORT

Question. There has been some confusion surrounding what the March 31st National Academy of Sciences report said about EPA's plan for the monitoring network. NAS staff have indicated to my staff that current plans for the monitoring network could be improved to provide information for research. NAS indicated you should bring in some outside advisors to evaluate the plan. Do you agree?

The report raises the question of whether you intend to get scientific input as to how well the network will actually measure particulate matter for compliance. It also raises the question as to whether we are putting in place a system that will actually measure what it is about particulate matter that causes these health effects. As planned, the system will measure the concentration of particles which are 2.5 microns or less. If we find that it is some chemical on some portion of these particles that is the culprit, will most of the planned system let us measure for compliance if you modify the standard to target the culprit (e.g., something other than PM–2.5)? I understand that there will be some monitoring stations that can be used to learn about the chemical composition ("speciation"), but there is concern as to how well we can extrapolate from these fewer stations. Will you bring in some outside expertise to see if our current plan for a network to monitor compliance is adequate and flexible enough?

Please explain the rationale for requesting more for monitoring than for research in fiscal year 1999.

Answer. At the outset it is important to note that the NAS committee made it clear that "substantial resources must be applied to ambient monitoring to ascertain attainment of the standards in various geographic areas." The only way to do this is to procure, put into place, and operate a national network of sufficient size and quality to cover areas with substantial populations or source regions that may contribute to areas that may violate the new PM–2.5 standards. As you note, the NAS committee is concerned about the balance of overall resources allocated to the PM–2.5 monitoring activity as compared to work that will address the priority health related research areas listed by the panel. In this regard, EPA welcomes the panel's comments and recommendations on ways to optimize the balance of regulatory monitoring activities so as to provide maximum benefit to the research program. These recommendations are consistent with EPA's approach to supplement the baseline PM–2.5 network with monitors that provide continuous readings, chemical and physical composition of PM, and measures of materials not adequately addressed by the PM–2.5 method. We will continue to work with the committee and others in the scientific community to ensure the best use of these monitoring resources. More specific responses to each of the issues raised in your question are provided below.

Review of the Networks

We agree with the NAS that the external scientific community should provide advice to the regulatory community on PM–2.5 monitoring efforts, both to ensure that quality information is gathered and that opportunities for addressing priority research needs are not missed. Each aspect of the monitoring program (including "supersites", routine chemical speciation, and attainment demonstration network) has already or will soon receive input from the outside scientific community as follows:

1. *Attainment network*.—The Federal Reference Method (FRM) monitor design and the blueprint for the monitoring network for determining attainment with the standard were peer reviewed by the technical monitoring subcommittee of the Clean Air Scientific Advisory Committee (CASAC), the external scientific panel that advises EPA on air quality standards.

2. *Routine chemical speciation.*—The EPA has established an expert panel of scientists to review plans for the "routine" chemical speciation network, and already has convened a meeting in Seattle, Washington to obtain outside advice on this part of the monitoring program.

3. *Supersites.*—EPA is working with the North American Research Strategy for Tropospheric Ozone (NARSTO) organization (a public/private partnership) to sponsor a July 1998 workshop of scientific experts to advise EPA on the supersites program. This program will establish monitoring platforms in selected cities to collect detailed air quality data to support health effects research and development of State Implementation Plans (SIP's). Through the workshop, the scientific community will advise EPA on the timing, location, and types of measurements to be performed.

4. The EPA will meet with the NAS on June 22–23, and at this meeting the plans for the various aspects of the monitoring program will be presented and discussed. Three key representatives of State and local agency organizations will attend the meeting and will be available to discuss the State role in the PM–2.5 monitoring program. In addition, at EPA's request, CASAC has agreed to reformulate the fine particle monitoring technical subcommittee to review those components of the network not previously reviewed.

All of these reviews provide opportunity for information exchange among EPA, State and local agencies, and the research community.

Adequacy of the Network for Specific Substances

As is well known, the new PM–2.5 standards were developed under an intensive process with substantial scientific review. The 1996 CASAC review, as have all previous reviews over the past 20 years, concluded that a standard for a mixture of particles, e.g. PM–10 or PM–2.5, was more appropriate than standards for any specific toxic particle component. The NAS panel states explicitly that it is not questioning this conclusion. The method for measuring PM–2.5 is based on the methods used in past health effects studies. The strengths and limitations of the method with respect to identifying and collecting specific components were well recognized by EPA and external scientists involved in the standards review. As noted above, the Federal Reference Method (FRM) monitor design and the blueprint for the monitoring network were peer reviewed by a monitoring subcommittee of the CASAC, the external scientific panel that advises EPA on air quality standards.

The NAS panel clearly recognizes the need to establish a network to measure PM–2.5 for attainment decisions, but wants to ensure enough measurements are made of specific components of PM–2.5, as well as materials that are not fully captured by the method. They also recommend use of continuous monitors to provide insights into exposure patterns. EPA agrees. It is important to note that EPA's monitoring plans already include substantial resources to make just such measurements. While initial EPA monitoring efforts have focused on the attainment related mass measurements that were reviewed by CASAC, the Agency has already begun enlisting the support of the scientific community with respect to the optimal use of the remaining resources. We will continue to work with the NAS panel and other scientists in developing this program in order to optimize the results for priority research areas identified by the NAS panel.

Resources allocated to Monitoring and Research

Regarding the question as to the balance of resources for monitoring and research, it is important to recognize that environmental characterization, including monitoring of constituents of PM and copollutants, is essential to many research activities including source-receptor modeling, epidemiological and toxicological studies of the toxic effects of exposure to PM, and assessment of actual human exposures and exposure relationships. Per the recommendations of the NAS, the EPA is developing a portfolio of research activities which is coordinated with and builds on the monitoring efforts. Substantial research-related resources are being allocated to address priority PM research needs (totaling over $90 million combined for fiscal year 1998 and fiscal year 1999). This level of resources is consistent with the recommendations of the NAS and will enable substantial new information to be developed to support evaluation of the National Ambient Air Quality Standards and standards implementation. The Agency is coordinating the monitoring and research activities to ensure that optimal use is made of both the monitoring and research resources.

FQPA PUBLIC NOTICE

Question. Food processors, agricultural interests and others have been very concerned with EPA's implementation of the Food Quality Protection Act. Has EPA used formal public notice and comment procedures to ensure adequate public input

and to assure that new FQPA policies are transparent and consistent with good science?

Answer. EPA is committed to effective public participation in the implementation of the Food Quality Protection Act (FQPA) and is reviewing its regulatory process to ensure there are adequate opportunities for public input. The Agency has utilized notice and comment where appropriate, such as for general data requirements, the establishment of tolerances, or to accept input on the content of the consumer brochure required by FQPA. At this time, however, EPA does not intend to use formal rulemaking or issue formal regulations on specific data requirements or exposure or risk assessment policies. The Agency feels it is important to continue implementation activities both for the establishment of new tolerances and the reassessment of existing tolerances without the delays resulting from this type of rulemaking. It is also important in order for EPA to maintain flexibility as our understanding of these issues evolves. We do not believe rulemaking is necessary to ensure public participation. Registrants will be alerted to any changes and allowed a reasonable time to incorporate them. The Agency has also presented all proposed changes in data requirements or risk assessments to the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel for discussion. This issue is among the many that we expect to address in the new EPA/USDA Tolerance Reassessment Advisory Committee. As Vice President Gore stated in his recent memorandum, the Administration is committed to receiving public input where appropriate and will continue to evaluate our use of formal notice and comment and will expand it if necessary.

Question. Wouldn't public notice and comment provide affected stakeholders with no voice in Washington an opportunity to give input on what decision criteria should be used?

Answer. EPA values regular and appropriate input from the regulated and scientific communities in developing pesticide risk assessments and risk management strategies. Industry regularly contributes scientific data and comments on regulatory strategies. EPA has also provided significant opportunity for industry, growers, and other stakeholders to weigh in during our implementation of FQPA. We established a Food Safety Advisory Committee (FSAC) immediately after the law was passed to provide guidance on implementation, and we have continued to work extensively with the Pesticide Program Dialogue Committee (PPDC). A variety of stakeholders were represented on the FSAC and are currently represented on the PPDC: large companies such as Monsanto and DuPont, small companies such as Gowan Chemical, growers, public health representatives, environmental and public interest groups.

We have presented our approaches to FQPA's science issues to the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel as they are developed. These presentations include an opportunity for industry and other stakeholders to appear and have input. EPA has also conducted workshops for minor users and antimicrobial registrants.

The Agency has published notices on our interim approach to risk assessment, our priority systems for minor use and reduced risk pesticides, our draft consumer brochure, and our schedule for tolerance reassessment. Many of these published notices called for public comment and those comments were considered in further refining our policies. As always, EPA's decisions are subject to existing legislative requirements which insure registrants and others have the opportunity to challenge tolerance actions, new active ingredient decisions, and any action which effects a pesticide registration; including public comment and hearing rights for registrants. In addition, EPA uses its Web site as an important tool to further distribution of material related to the FQPA.

Question. Based on the Vice President's memo of April 8th, will you begin using notice and comment procedures?

Answer. The Vice President outlined the principles that are essential to proper implementation of FQPA: use of sound science in all decisions; ensuring that the regulatory process is transparent; providing appropriate, reasonable transition mechanisms which reduce the risk associated with pesticide use without jeopardizing U.S. agriculture; and, consultation with interested constituencies. To ensure that these goals are realized, the Tolerance Reassessment Advisory Committee, co-chaired by EPA Deputy Administrator Fred Hansen and USDA Deputy Secretary Richard Rominger, is being established to seek advice and consultation from affected user, producer, consumer, public health, environmental, and other interested groups. The Agency itself is reviewing its regulatory processes to ensure that there are adequate opportunities for public input. As part of that review, EPA will discuss with the Tolerance Reassessment Advisory Committee ways to improve trans-

parency and to ensure adequate public participation. In the interim, the Agency will continue to use it where appropriate.

FQPA: RELIABLE DATA

Question. FQPA was supported by many in groups, in part due to an expectation that EPA decision-making would rely on "real world" data instead of exaggerated exposure assumptions. What actions have been taken to ensure that reliable data are obtained on pesticide risk before making decisions on tolerance reassessments and reregistrations?

Answer. Within six months of the Food Quality Protection Act (FQPA) going into effect, EPA issued Pesticide Regulatory Notice 97–1, in which the Agency discussed the types of data that are useful in making regulatory decisions. The registrant is always free to submit additional data in support of their application, and they are in the best position to know if supplemental data is needed.

Pesticides are the most thoroughly studied substances regulated by EPA. In addition to the wide range of studies required from pesticide registrants, EPA has access to very comprehensive data on food consumption and on measured pesticide residues from USDA. There is also a growing body of data on pesticides in water compiled by the U.S. Geological Survey and others.

As a result, EPA already has considerable data to draw upon in the review of tolerances. The Agency uses a tiered approach to data requirements. If the first tier of data indicate risks of concern, EPA requires additional data to refine its analysis. This enables the Agency and industry to use resources efficiently, without wasting time and money on unneeded studies. Where additional data is critical to making a sound decision, EPA will require that data. However, the Agency believes it would not be responsible to wait for additional data if available information is sufficient to make a decision.

Question. How high a priority is this to EPA?

Answer. Making regulatory decisions using sound science and the best available data is a high priority for EPA. The Agency recognizes that how we implement FQPA will have important and far reaching consequences. The Agency is asking its new advisory committee, the Tolerance Reassessment Advisory Committee, to assist in establishing the framework for EPA's decisions on organophosphates, including discussion of how to properly document and communicate decisions, ways to improve the pace of registering newer and safer pesticides and new uses of existing pesticides that meet the FQPA standard, and methods to foster public input during the decision process. We expect that approaches pioneered by focusing on the organophosphates can be applied broadly to all of our work in implementing FQPA.

Question. Do you have all the data you need to make decisions that reflect actual use and actual exposure?

Answer. EPA uses only sound, peer reviewed science in regulatory decisions. Our first priority is to obtain the best scientific data available. Pesticides are the most thoroughly studied substances regulated by EPA. We have a wide range of laboratory and field data submitted by registrants and access to comprehensive data on food consumption and measured pesticide residues from USDA and the U.S. Geological Survey. Finally, we have been encouraging registrants and users to provide any additional information they may have to ensure the best decision making possible.

In any particular case, when EPA evaluates a pesticide, final decisions on whether to establish, maintain, revise, or revoke a tolerance will be based on the best data set available. Where data are incomplete, we make a judgement of how important the missing data is to making a regulatory decision. We may use additional uncertainty factors or make professional judgments and reasonable, health-based assumptions. This is a long standing scientific practice, which addresses the need for timeliness both in making decisions to permit market entry of new products and to maintain or modify the registration status of old products.

Question. To what extent do you rely on hypothetical risk estimates in making tolerance decisions?

Answer. EPA uses the best data available. Where data are incomplete, EPA may compensate by using an additional uncertainty factor or making a reasonable health-protective assumption. This has long been EPA practice and FQPA emphasizes the importance of uncertainty factors where data are incomplete. Where risk estimates are used, for instance in drinking water exposure, EPA relies on actual data supplemented with scientifically reviewed models and not on worst-case assumptions. Where detailed data, such as monitoring data, are not available, EPA uses screening procedures to identify pesticides that are unlikely to get into drinking water. This screening process allows the Agency to make timely decisions with-

out requiring additional data from registrants that are not necessary to make a decision. If a pesticide does not pass this screen, EPA considers factors such as the nature of the health concern, overall risk, and the potential magnitude of drinking water contamination. The Scientific Advisory Panel and the International Life Sciences Institute is providing expert advice and review of our methods.

Question. Have registrants and users been told what new data they need to generate to determine if products comply with the new standards?

Answer. EPA did issue PR Notice 97–1 discussing what information would assist in reviewing pesticide applications. The Agency also issued guidelines on conducting reproductive toxicity tests, which will address concerns about potential impacts on the developing fetus and young animals. As we further develop and refine our approach to risk assessment under FQPA, we will adjust guidelines as needed. We have been encouraging registrants and the user community to provide us any additional information they may have to ensure the best decision making possible and companies have had more than a year to provide any additional data they believe may help support their registered uses.

Question. By when and in what manner will you inform registrants and users?

Answer. EPA is strongly committed to an open process of airing new data requirements. All proposed new studies are presented at least once, and generally several times, to the Scientific Advisory Panel (SAP) for their review and comment before they are formally adopted. As you may know, SAP meetings are public and documents are available two or more weeks before the meeting. Oral and written comments are welcome. As an example, the possible approach to screening chemicals for endocrine disruption was recently presented to the SAP and the Administrator's Science Advisory Board. In December, the Agency is expected to present the details of the screening process to the SAP. EPA will consider use of formal rulemaking where appropriate, particularly if we amend the general data requirements for pesticide registration.

FQPA: REREGISTRATION VS REGISTRATION

Question. How much does EPA's budget contain for reregistration efforts compared to new registrations?

Answer. In the 1999 President's budget, $47.2 million and 496.7 FTE's (or full time equivalents) were budgeted for reregistration and $30.8 million and 263.1 FTE's were budgeted for registration.

Question. How much does the agency need to allow for more expedited registration of new products to replace those which may not meet the FQPA standard?

Answer. The Agency estimates that roughly doubling the resources used for registration would allow the pesticide program to move away from a priority system to a review of all applications and reduce the amount of time required for that review.

Question. Does EPA have adequate staff to review in a timely fashion new active ingredients?

Answer. EPA currently has adequate staff to register approximately 25–30 new active ingredients per year and approximately 100 new uses. The Agency has tried to reduce review times by creating new divisions to review antimicrobial and biological registration applications, and working with registrants to reduce the number of rejected studies. EPA continues to search for ways to efficiently review applications given available resources and requirements.

Question. How long does it take for EPA to make a decision on a new product petition after it is received?

Answer. The average review time for a conventional new active ingredient is 3–3.5 years. Average review time for a new reduced risk pesticide active ingredient is 16–18 months.

Question. Can this review and processing time be reduced?

Answer. As noted above, more resources would allow for reduced review and processing time for new applications. The Agency is also looking at other ways to streamline the registration process and will be discussing this issue with its new advisory committee, the Tolerance Reassessment Advisory Committee.

FQPA: NEW ADVISORY GROUP

Question. The Vice President's April 8, 1998 memo directs EPA to work more closely with the U.S. Department of Agriculture and with stakeholders in implementing the FQPA. In response, EPA established a new advisory group and committed itself to apply sound science, to employ an open process of decision making, and to ease any necessary transition to new rules so as not to jeopardize agriculture and farm communities. Has the new advisory group been formed?

Answer. Yes. The group was announced on April 30, 1998. A list of members is attached.

Question. Has it met?

Answer. The first meeting of the Advisory Group took place on May 28 and 29, 1998. There will be three additional meetings of the Advisory Group, one in June and two in July 1998.

United States Environmental Protection Agency (17O3), Communications, Education and Public Affairs

EPA Note to Correspondents

FOR RELEASE: THURSDAY, APRIL 30, 1998

EPA BROADENS PUBLIC INVOLVEMENT IN IMPLEMENTATION OF FOOD, QUALITY PROTECTION ACT

The U.S. Environmental Protection Agency in conjunction with the U.S. Department of Agriculture is establishing a new advisory group to ensure the broadest possible public involvement as it moves forward to implement the Food Quality Protection Act. This new committee responds to Vice President Gore's request that implementation of the new law is informed by appropriate input from affected members of the public.

EPA Administrator Carol M. Browner said, ''The new committee to advise EPA on pesticide-safety issues is part of the Clinton Administration's common-sense approach to protect public health while ensuring the abundance of America's food supply. One of the most important parts of that approach is consulting openly and often with a broad variety of groups representing the views of the American public. We look forward to hearing from this committee on issues ranging from protecting children's health to using the best scientific data in our decision making.''

USDA Deputy Secretary Richard Rominger said, ''USDA looks forward to working closely with EPA and this advisory group to develop a scientifically sound and balanced implementation strategy for FQPA. Using this process to craft an effective transition strategy for at-risk commodities is critically important to USDA and American Agriculture.''

The new committee will be co-chaired by EPA Deputy Administrator Fred Hansen and USDA's Richard Rominger. Its members will be made up of experts that include farmers, environmentalists, public health officials, pediatric experts, pesticide companies, food processors and distributors, public interest groups, academicians, and state, local and tribal governments.

The new committee will advise EPA and USDA on a host of issues pertaining to the implementation of the Food Quality Protection Act. Examples of those issues include helping EPA use the best science in making decisions about pesticide safety; helping EPA set priorities in considering broad categories of pesticides, such as organophosphates; helping EPA speed the pace of decisions on pesticide safety to make sure that farmers can have products they need in a timely way, advising USDA on prioritizing research programs to address FQPA-driven needs, and making sure pesticide safety rule are protective of children.

A list of nominees is attached.

JOHN KASPER,
Director, R–51, Press Services Division.

MAY 13, 1998—EPA-USDA TOLERANCE REASSESSMENT ADVISORY COMMITTEE (TRAC)

SUBCOMMITTEE TO NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY &, TECHNOLOGY

Fred Hansen, Deputy Administrator, EPA, Co-Chair
Richard Rominger, Deputy Secretary, USDA, Co-Chair

Designated Federal Officer

Margie Fehrenbach, Office of Pesticide Programs, EPA.

Environmental/consumer Organizations/Farmworker Representatives

Carolyn Brickey, National Campaign for Pesticide Policy Reform.
Nelson Carrasquillo, Executive Director, C.A.T.A. (Farmworker Support Committee).
Ken Cook, Environmental Working Group.
Shelley Davis, Farmworker Justice Fund.
Jeannine Kenney, Consumers Union.
Sarah Lynch, World Wildlife Fund.
Maion Moses, Pesticide Education Center.

Erik Olson/David Wallinga, Natural Resources Defense Council.

Agriculture/Farmer Representatives

Dan Botts, Florida Fruit and Vegetable Association.
Jim Czub, National Corn Growers Association.
Larry Elworth, Program for Strategic Pest Management.
Hugh Ewart, Northwest Horticultural Council.
William T. Lovetady, Chairman, National Cotton Council.
Brad Luckey, Luckey Farms, Imperial County, California.
Charles Mellinger, National Association of Independent Crop Consultants.
Steven Pavich, Organic Grape Producer, Terra Bella, CA.
Bill Spencer, Farmer, American Farm Bureau Federation.
Robin Spitko, Plant Pathologist, Massachusetts.

Pesticide Companies

Emilio Bontempo, Novartis.
Linda Fisher, Monsanto.
Jon Jessen, Gowan.
Elin Miller, DowElanco.
Nancy Rachman, American Cyanamid.
Jay Vroom, American Crop Protection Association.

Other Federal Agencies

Dick Jackson, Centers for Disease Control and Prevention.
Robert Lake, Food and Drug Administration.

NACEPT/SAP Representatives

Mark Greenwood, Ropes & Gray.
Ernest McConnell, Chair, FIFRA Scientific Advisory Panel (SAP).

Academia

Dr. Jose Arnador, Director, Agriculture Research & Extension Center, Texas A&M.
Dr. Mike Linker, North Carolina State University (State Extension Service).
Dr. J. Routt Reigart, Pediatrician, Medical University of South Carolina.
Dr. Michael Shannon, Pediatrician, Children's Hospital/Harvard Medical School.
Michael Taylor, Visiting Scholar, Resources for the Future.
Dr. John Wargo, Yale University.
Mark Whalon, Michigan State University.

Tribal, State, & Local Representatives

Henry (Andy) Anderson, Association of State & Territorial Health Officials, Wisconsin.
Bill Cottkamp, Supervisor of Vector Control, St. Louis County Dept. of Health, MO.
Alice Devine, Commissioner, Kansas Department of Agriculture.
Jean-Mari Peltier, California Department of Pesticide Regulation.
Greg Phillips, Omaha Tribal Council.
Lora Lee Schroeder, Chair, AAPCO FQPA Minor Use Committee, GA Dept. of Agriculture.

Food Processors/Distributors

John Cady, National Food Processors Association.
Kay Holcombe, Policy Directions, Inc.
Alfred Pieroallini, Gerber Products Company.
William Spain, Del Monte Foods.
Margaret Wittenberg, Whole Foods Market, Inc.

Structural Pest Control User

Robert Rosenberg, National Pest Control Association.

Observers

EPA Regional Office

EPA Office of Children's Health Protection

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USDA

Allen Jennings, Office of Pest Management.

Congressional Participants

Howard Cohen, House Commerce Committee.
John Ford, House Commerce Committee.
Eric Burger, House Commerce Committee.
Greg Dotson, Congressman Waxman's Office.
Bill O'Connor, House Agriculture Committee.
Dannell Farmer, House Agriculture Committee.
Terri Nintemann, Senate Agriculture Committee.
Phil Schwab, Senate Agriculture Committee.
Jean Fruci, House Committee on Science.
Paul Charton, Office of Congressman Berry Jay Hawkins, Senate Committee on Labor and Human Resources.

FQPA: CUMULATIVE RISK GUIDANCE

Question. A new report from the International Life Sciences Institute is expected to provide guidance on how to calculate cumulative risk. Does EPA expect to use that report in developing its implementation approach?

Answer. EPA certainly will be factoring the International Life Sciences Institute's (ILSI) report into the process for decision making on cumulative risk assessment. In addition, we will be obtaining input on this issue from the new advisory committee, from a policy viewpoint. As with all of our science policies, as our approach is developed we will receive expert review and comment from the FIFRA Scientific Advisory Panel and the Administrator's Science Advisory Board.

FQPA: INSECTICIDE CANCELLATIONS

Question. How might EPA ease the transition if one or more popular insecticide uses are canceled?

Answer. EPA is committed to making every effort to ensure that farmers have the critical tools they need to grow our food. EPA wants all affected growers to be able to anticipate and plan for our actions. We are balancing tolerance reassessment with the introduction of new products and pest control methods to help ensure that both chemical and non-chemical alternatives are available.

EPA has stepped up its efforts to provide better, safer choices for pesticides for farmers. In the past few years, EPA has created two new programs aimed at expediting reviews and ultimately market entry of lower risk products and safer substitutes. The Agency created the Biopesticides and Pollution Prevention Division. The types of products registered in this Division generally have a non-toxic mode of action. By combining the risk managers with the review scientists in one division, we have been able to streamline the entire review process. About half of post—Food Quality Protection Act (FQPA) new active ingredients have been for biopesticides.

The second program, known as the Reduced-Risk Pesticide Program, has been in place since 1994. Applications that come in under the Reduced-Risk Program are placed at the head of the review queue. To date, 17 new chemicals have been approved as reduced risk alternatives. This program clearly provides an incentive for companies to develop lower-risk products and safer substitute products. Among the 13 chemicals currently under review as part of this program, 5 new active ingredients are potentially significant substitutes for some organophosphate registered uses for which reviews should be completed before tolerance reassessment on organophosphate pesticides is completed. EPA has also proposed a draft policy to give expedited consideration to applications for reduced risk pesticides that may be alternatives to the organophosphates. As stated in the Vice President's April 8 memorandum on food safety, EPA is establishing an advisory process to ensure broad stakeholder involvement in the development and implementation of an approach to tolerance reassessment for organophosphate pesticides.

In addition, EPA works with the U.S. Department of Agriculture (USDA) on a regular basis to ensure that the impact of its regulations and decisions on farmers is considered. USDA has committed to enhance research and development of alternative pest control methods and EPA has committed to expediting review of any products that result from this research and development. EPA and USDA also have a Memorandum of Understanding to foster cooperative efforts to provide replacements for pesticides that are likely to be subject to cancellation or suspension by EPA, or are subject to voluntary cancellation based on risk or economic concerns. This program is particularly important for minor use crops, such as fruits and vegetables, which may face a lack of safe and effective pest management alternatives.

ANTIMICROBIALS PESTICIDES: LABEL CLAIMS

Question. Does EPA have any evidence that particular label claims and/or advertising of the antimicrobial pesticide properties in particular consumer products such as toys, cutting boards or toothbrushes are misleading or confusing to consumers? If so, please provide it to this Committee.

Answer. The Agency has received numerous questions and complaints from citizens, reporters, and competitors about label claims and/or advertising of the antimicrobial pesticide properties in consumer products. A significant proportion of these contacts have indicated that the claims being made by some companies are, at best, confusing and often appear intentionally misleading. While public concerns have focused on the truthfulness of the claims, EPA has not contended in its enforcement actions that these statements are false or misleading. Rather, the Agency has taken enforcement actions against consumer products, such as sponges and cutting boards, because the products have made claims to control disease-causing germs, such as E. Coli, staph, and strep, without having first been registered as pesticides. In its public statements, EPA has consistently been careful to say that it does not know whether such public health claims are true. Rather, we have stressed that EPA's role under the pesticide law is to evaluate data presented by companies to support their claims to control human pathogens, since the consumer is unable to tell whether an antimicrobial pesticide is working. Moreover, the Agency has emphasized that if such products do not work, the public may be put at risk because they may forego normal hygienic practices in mistaken reliance on the products' claims.

ANTIMICROBIAL PESTICIDES: LIMITING CLAIMS

Question. What are EPA's reasons for limiting the claims that a pesticide that inhibits the growth of bacteria in a consumer product can make against any type of pest if the claim can be substantiated?

Answer. EPA has repeatedly said that the Agency is prepared to register and allow the marketing of consumer products which make pesticidal claims, provided those products are properly labeled, safe to use, and, to the extent they make claims to control pathogenic microbes, efficacious. In particular, as part of such a registration decision, EPA would approve a claim that a product inhibits pathogenic bacteria if the claim is substantiated and presented in a manner that does not mislead the consumer into expecting a greater degree of antimicrobial activity than the product actually provides.

ANTIMICROBIAL PESTICIDES: PROTOCOL

Question. Does EPA have a protocol to test the efficacy of a bacteriostatic pesticide against microorganisms? If not, how long will it take EPA to develop such a protocol?

Answer. Historically, claims to limit the growth of bacteria (i.e. bacteriostasis) are not considered public health claims, and EPA does not require the submission of efficacy data to support the registration of a product making such a claim. As mentioned above, EPA does require efficacy data to substantiate claims to control disease-causing microbes. The Agency believes that requiring companies to demonstrate to EPA the efficacy of products claiming to benefit public health is critical, both because of the potentially serious consequences for society if such products do not work, and because the user simply cannot tell whether such products work. EPA has already issued guidelines for testing of antimicrobial pesticides making public health claims. From time to time, a company may seek registration of a pesticide that makes public health efficacy claims for which there is not an approved testing method, usually because the product is innovative and is of a type that has never been marketed. In such situations, EPA works with the company to develop an acceptable interim testing protocol. Typically, the company will consult with appropriate experts and submit a proposed protocol for EPA review. Using its internal expertise, and consulting with outside experts where appropriate, EPA provides recommendations for the improvement of the protocol. The amount of time required to develop such a protocol depends on a number of factors including the efforts made by the company and the degree to which an existing method can be adapted to the innovative product.

ANTIMICROBIAL PESTICIDES: ENFORCEMENT ACTIONS

Question. With regards to enforcement actions taken against makers of consumer products incorporating antimicrobial additives, what steps did EPA take to provide

an opportunity for companies to correct their alleged violations before EPA undertook enforcement?

Answer. EPA has repeatedly expressed concerns about the need for consumer products companies to follow the registration process that Congress established to safeguard public health. EPA has raised the issue in its public Antimicrobials Stakeholders' Meetings held quarterly and in meetings with numerous individual pesticide manufacturers. In addition, EPA's Antimicrobials Division Ombudsman has spent a significant amount of time counseling companies about how to comply with the pesticide laws, and has provided written responses to over 25 companies on acceptable claims. Finally, EPA has attempted to convey its message to the consumer goods industry through the general media and trade press publications.

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) does not provide for an amnesty period prior to EPA initiating enforcement actions. After initiating actions, EPA did allow companies to continue to sell and distribute products once interim corrective measures were negotiated and agreed upon. These measures allowed companies to continue distribution and sales of existing stocks versus disposal or instituting expensive recall and repackaging procedures.

All products that make pesticidal claims must be registered by EPA before they may be legally marketed in the United States pursuant to Section 3 of the FIFRA, 7 U.S.C. § 136a, unless they are exempt from registration. Under FIFRA, EPA created a limited exemption to allow pesticide treated articles to be sold without an EPA registration as long as product claims are limited to protection of the product itself. The treated articles exemption is set forth in 40 Code of Federal Regulations Section 152.25(a). The regulated community has had notice of this regulation since it was first promulgated in 1988.

ANTIMICROBIAL PESTICIDES: IN THE MARKETPLACE

Question. EPA's proposed Pesticide Registration Notice creates a regulatory scheme that effectively deters consumer products treated with an antimicrobial pesticide from entering the marketplace. Is this EPA's intended purpose? If not, how is EPA going to prevent this from happening?

Answer. EPA's Pesticide Registration Notice does not deter consumer products treated with registered antimicrobials from entering the marketplace. In fact, it continues the longstanding policy of exempting such products from any registration requirements if the only claims made for the presence of the antimicrobial in the product are that the pesticide protects the product itself. The PR Notice does deter companies from making public health or other pesticidal claims that are not substantiated by scientific data. In effect, the PR Notice would require companies making claims of public health benefits either to submit data for EPA review as part of an application for registration or to limit any pesticidal claims only to the protection of the treated article.

EPA is very interested in supporting the introduction into the marketplace of products impregnated with antimicrobials that will contribute significantly to protecting the public health. Thus, we have been working actively with the regulated community and the scientific community to address policy and science issues concerning how to evaluate these products efficiently and fairly. A meeting of EPA's Scientific Advisory Panel last September provided very helpful guidance on the design of new efficacy testing methods. We have also scheduled the topic of regulating treated articles for extended discussion in the upcoming National Antimicrobials Workshop in mid-June. We will continue to issue guidance and to consult with affected parties as decisions are made.

NEPPS: NAPA REPORT ON FORMAL ASSESSMENTS

Question. According to the Sept. 1997 NAPA report, "EPA has not used the opportunities presented by NEPPS to give states clear incentives for better performance. The agency has failed to establish the practice of making formal assessments of state performance and using these assessments to link performance explicitly with the level of Federal oversight and with the flexibility in program design and innovation. Such a policy would create strong incentives for improved state performance." Do you agree with NAPA's recommendations on the need for formal assessments and linking performance with the level of oversight and flexibility? If so what are EPA's plans to follow this recommendation?

Answer. EPA is already implementing the approach to oversight recommended by the National Academy of Public Administration (NAPA). As a fundamental component of the National Environmental Performance Partnership System (NEPPS), EPA tailors the amount and type of oversight—as well as provision of EPA technical assistance—to each state's needs. The first step in the NEPPS process is a state and

EPA assessment of environmental conditions and program performance. EPA believes these assessments form an appropriate basis for negotiating Performance Partnership Agreements (PPA's) and for determining where greater flexibility should be provided and what level of oversight is needed.

The NEPPS process has already resulted in reduced oversight and reporting in several states, and through NEPPS evaluation efforts and other means, EPA will identify and promote wider use of successful approaches to assessing performance and tailoring oversight to state needs and conditions. As an example of how EPA has reduced reporting, Region VII has collaborated with Missouri and Nebraska to switch from quarterly reporting to semi-annual reporting and is exploring use of self-evaluation by Missouri. In the state assessment arena, EPA Region IV has developed indicators and benchmarks for the drinking water program and uses them to focus regional resources on weaker states. In an example of how EPA tailors assistance to specific state needs, one EPA region provided program staff to work in a state temporarily to reduce backlogs while helping the state convince its legislature that the agency needed more resources.

A variety of quantitative and qualitative information is considered in the assessments of state performance, such as formal reports on accomplishment of grant and other program commitments, the experience of state staff, environmental monitoring data, the quality of permits issued, changes in state funding levels, economic development pressures, and changes in legal authorities. There are multiple environmental programs, and a state's performance may vary substantially among them. The availability and quality of information useful for assessment varies as well. Therefore, EPA believes that its adaptable approach to assessment is the most appropriate way to fairly accommodate the variations among states and the complexity of factors that should be taken into account in assessing and then addressing state performance and needs.

EPA program offices and regions use a range of approaches and tools for assessing state performance—both formal and informal. The core performance measures, developed as part of the NEPPS effort, provide EPA and states with an important tool for evaluating progress in environmental protection and implementing environmental programs that should aid in making the assessment process more consistent. However, given the many factors involved, EPA does not think it possible or advisable to try to develop a "one size fits all" protocol that would set out specific standards for performance and specific responses that EPA would make to a given performance score. (Highlighting the challenge of developing acceptable criteria, state officials themselves abandoned efforts to implement the "leadership" designation originally envisioned as part of NEPPS when they were unable to agree on the standards to use.) Rather, EPA believes it most appropriate to tailor the Agency's response to state performance to the specific needs and strengths of the individual state—designing solutions to problems or rewards for good performance to suit the specific situation.

NEPPS: FLEXIBILITY

Question. How do you respond to the criticism that some of EPA's offices, such as the Office of Enforcement and Compliance Assurance, resist providing states with the flexibility to focus their environmental programs on results, and instead compel them to focus on process-oriented activities?

Answer. All of the EPA National Program Managers (NPM), including the Office of Enforcement and Compliance Assurance (OECA), work closely with the states through the Environmental Council of the States (ECOS), to develop core performance measures (CPM) to measure state environmental performance. Core performance measures for the enforcement and compliance assurance program are referred to as "accountability measures." The accountability measures are in sync with OECA program measures, which relate directly to the Agency's goals and assist OECA in meeting its obligations under GPRA.

Core performance measures (including accountability measures) were issued under the "Joint Statement on Measuring Progress Under the National Environmental Performance Partnership System" signed by EPA and State officials in August 1997, which reaffirms our joint commitment to use core performance measures as tools to track progress in achieving results.

Current accountability measures are a mixture of outcome and output measures. Traditionally, EPA relied on output measures, such as the number of enforcement actions taken and inspections conducted. These will remain important measures of program performance and accountability for both EPA and the states because they assure the public of the government's presence, they provide accountability for Fed-

eral and state actions, and they give EPA and the states important information about how our strategies are working.

However, the core performance measures for states also reflect the progress EPA has made in developing outcome measures. Outcome measures included in the core performance measures are:

—Rates of significant non-compliance by industry sector and by media;

—Percent of significant violators in each media that have new or recurrent significant violations within two years of receiving a formal enforcement action;

—Environmental and/or public health benefits achieved through inspection and enforcement activities (e.g.,through case settlements, compliance agreements, injunctive relief, Supplemental Environmental Projects); and,

—Results or impact of using: state audit privilege or immunity law; state audit policies; state small business compliance assistance policies; and compliance assistance initiatives developed for specific industry sectors.

NEPPS: DIFFERENTIAL OVERSIGHT

Question. The National Performance Partnership System calls for differential oversight by EPA. EPA is expected to focus resources on state programs that need more assistance and attention to perform well and reduce oversight elsewhere. What steps have been taken to achieve this?

Answer. As stated in the 1995 agreement to establish a National Environmental Performance Partnership System (NEPPS), "This new system will not change federal authority, but serves as a guide to the judicious and more effective exercise of that authority." In other words, EPA still has responsibility and authority to conduct oversight of state programs under the various Federal environmental statutes. NEPPS seeks a more efficient and judicious use of that authority to ensure continued progress in environmental protection while allowing strong state programs more flexibility to innovate.

EPA Regional Offices routinely differentiate between stronger and weaker performers through routine program reviews or other oversight procedures, and respond with an array of tools depending on the circumstances. Program performance can vary over time with changes in resources, changes in program objectives, or increased staff turnover. Quite often, when a weakness or need has been identified, EPA will provide training, technical assistance, and even loan staff to a state until the problem has been addressed. In other cases, the State and EPA will devise a strategy drawing on their respective strengths (such as different enforcement authorities, or different monitoring or modeling capabilities) to remedy the problem. Sometimes, the experience or ability of neighboring states can be brought to bear to solve a problem.

As a key part of NEPPS the Performance Partnership Agreements have provided a mechanism to identify state needs, craft joint EPA/State responses, and articulate specific plans and commitments. The PPA also provides an avenue for EPA to identify strong program performance, and to adjust its oversight procedures for that program accordingly.

The August 1997 EPA/State Agreement on Core Performance Measures provides an important new tool for measuring state environmental and program performance, thus forming a more solid and equitable basis for gauging state and EPA performance in the future. Core Performance Measures are intended to help make performance assessment less subjective over time, and more focused on meaningful results.

Through NEPPS, EPA and the States are also investing considerable effort in reducing unnecessary state reporting. This work ties into the broader EPA/State Initiative on "Reinventing Environmental Information." While much work remains to be done, "reporting burden reduction" has already made a measurable impact in several regions and states, and allows both EPA and State environmental agencies to devote more effort to their original missions of protecting human health and the environment.

PARTNERSHIP GRANTS: REGS AND GUIDELINES

Question. Performance Partnership grants allow states to consolidate the many categorical grants. Both EPA and states are responsible for accounting for these Federal grant funds. Has EPA developed regulations or guidelines to define how combined grants can be rationalized and spent? Now that states are receiving combined grants under PPG's, how is EPA tracking the flow of Federal funds?

Answer. Since Congress approved EPA's Performance Partnership Grant (PPG) authority in April, 1996, the award of PPG's has been governed by EPA Interim Guidance. Work is nearing completion on proposed changes to EPA's regulations (40 CFR Part 35). The revised regulations will govern individual environmental pro-

gram grants to states as well as PPG's. The draft regulations were developed in an extensive collaborative process involving State and Tribal representatives.

The draft rule streamlines administrative processes and builds key partnership concepts—such as consideration of state as well as EPA priorities and joint evaluation—into the state grant programs. The PPG provisions further refine and simplify administrative requirements and articulate what can be funded under a PPG. States can opt to combine funds from two or more programs in a PPG to achieve administrative savings and more easily fund cross-media activities, and States may receive more than one PPG. Under the proposed regulation, States wishing to reduce or increase effort in various programs combined in PPG's must provide a rationale commensurate with the extent of the proposed shifts in emphasis.

It is a state's decision whether to apply for PPG's and which eligible grant programs to include. The state will propose the activities to be carried out in the work plan which accompanies a grant application. In the work plan, the state will specify the components that make up the work plan and the related environmental commitments the state agrees to complete.

The state's PPG work plan will include estimates of the work years and funding amounts related to the various work plan components. This information will allow EPA to tie the state's work plan commitments to the accomplishment of EPA's goals and objectives established under the Government Performance and Results Act (GPRA). This process will not increase the accounting burden on states. Work plans will also include proposed performance evaluation and reporting processes for PPG's. All aspects of proposed work plans are subject to negotiation between the EPA Regional Offices and the state. If proposed commitments in a work plan are not consistent with EPA's National Program Guidance, the Regional Administrator must consult with the appropriate EPA National Program Manager before approving the departure.

After a state's PPG application is complete and accepted, EPA reprograms the appropriate funds from the individual program grant fund elements into a PPG program element. Awards are made from the PPG program element, and EPA tracks the funds there.

At the end of each budget cycle, the state and EPA will carry out a performance evaluation in accordance with the processes that were agreed to in negotiating the PPG. These evaluations will assure that states accomplish the work they committed to do.

NEPPS: OVERSIGHT VS FLEXIBILITY

Question. EPA will need to improve its reporting of outcomes (results) to comply with GPRA. The states are concerned that EPA will impose new reporting requirements and new burdens on states, since they have the bulk of day-to-day responsibility for national program implementation. This potentially would conflict with the administrative and fiscal flexibility EPA is offering states through performance partnership agreements. What is EPA's response to state concerns about conflicts between the goals of the National Environmental Performance Partnership System, and GPRA?

Answer. EPA is committed to the goals of providing programmatic, administrative, and fiscal flexibility in the National Environmental Performance Partnership System (NEPPS). Furthermore, EPA is confident that the focus on performance-based management envisioned by the Government Performance and Results Act (GPRA) will not compromise these fundamental NEPPS principles.

EPA has already done substantial work in aligning annual measures with our Strategic Plan goals and objectives, as well as beginning the process of instituting environmental outcome performance measures. EPA is also working closely with the states to ensure as close an alignment as possible between information states will provide under the Core Performance Measures and associated reporting requirements and what EPA must report to Congress under GPRA. Both EPA and states are reaching agreement that a mix of both outcome and output measures is needed to assess environmental results as well as program performance.

Our preliminary comparison of the agreed-upon Core Performance Measures with the full range of reporting requirements found in the fiscal year 1999 Annual Performance Plan shows that GPRA has not resulted in the imposition of new reporting burdens on the states. Over the summer, states and EPA will be carefully analyzing the linkages between EPA's strategic goals and objectives, the Core Performance Measures, and the data needed to support them. With these efforts, EPA does not anticipate significant conflicts between GPRA and NEPPS.

EPA is developing guidance for EPA Regions to address the challenge of providing flexibility with fiscal accountability in Performance Partnership Grants (PPG) while

maintaining EPA's ability to report appropriately under GPRA. Where individual program grant funds are being combined in a PPG, EPA regions will work with states to develop an estimate of the amount of the combined funds being used to support the various GPRA goals and objectives.

NEPPS: SHORT-TERM IMPROVEMENTS

Question. States identify several high-priority, short-term improvements that are needed to implement NEPPS. Chief among these are: achieving burden reduction (such as replacing numerous "bean-counting" activities with less numerous performance measures); changing the culture at EPA to accept partnerships with states rather than the traditional oversight relationship; and recognition by EPA that priorities identified by states may be different from EPA priorities. What concrete steps will EPA take during fiscal year 1999 to effect these improvements?

Answer. The goals of the National Environmental Performance Partnership System (NEPPS) are to improve environmental protection through better measurement of environmental results, better use of EPA and State resources to address the most pressing environmental problems across the country, and enhance public accountability. Since these multi-faceted goals encompass virtually everything EPA and States do, implementing all the changes involved will take time.

Important steps toward achieving the NEPPS goals include reducing the reporting of information not necessary for effective program management, carrying out EPA's responsibility for oversight of state programs in a way that is tailored to individual state conditions and needs as well as designed to help improve program performance over the long run, and recognizing state priorities in planning and priority setting. Efforts to address State concerns about the need for greater progress in these areas are already underway, and work will continue during fiscal year 1999. Following are some examples of steps EPA is taking, in cooperation with States, to improve NEPPS implementation.

Burden reduction.—A key objective of NEPPS is to achieve a better balance between environmental and traditional activity measures. This summer, in a critical step towards reducing state reporting burden, EPA and states will analyze the alignment between EPA's goals and objectives and the Core Performance Measures/Associated Reporting Requirements. We will use this process to refine the fiscal year 2000 Core Performance Measures and to identify potential candidates for reduced reporting. In addition, States and EPA are now working together in a major initiative to reform environmental information systems and their accessibility. This multi-faceted effort should bring about reduced reporting burden for both the regulated community and States.

Partnership culture.—EPA recognizes the challenges faced by both EPA and States in getting increased understanding of and support for the partnership approach to State-EPA relations. EPA believes that the culture change will accelerate as the processes and mechanisms for NEPPS and PPG's become more routine and implementation details are clarified and more widely understood. Several mechanisms are in place to identify and ensure that issues are addressed, including an internal EPA NEPPS senior management group, a cross-agency staff working group, and an ECOS–EPA steering group. In addition, EPA holds periodic NEPPS workshops, the most recent of which involved both State and EPA staff.

State priorities.—NEPPS is designed to help EPA and States direct scarce public resources toward improvement of environmental results. Since State priorities may be different from EPA priorities, joint planning and priority setting—based on assessment of environmental conditions and program needs—is a fundamental aspect of NEPPS. State priorities are explicitly considered in negotiation of Performance Partnership Agreements (PPA's) and State grant agreements. To ensure that national priorities and needs are also met, EPA Regions must consult with National Program Managers before agreeing to a State proposal to deviate significantly from national guidance or Core Performance Measures. EPA will encourage future NEPPS evaluation efforts to review how well the joint planning and priority setting aspect of the system is working to improve environmental performance.

CCTI: GREENHOUSE GAS RELEASES

Question. What analysis did the administration perform to determine that $6.3 billion is needed to implement climate change activities and how to allocate these funds to ensure that they are used most effectively to decrease greenhouse gas releases?

Answer. There was a coordinated effort within the Administration among several agencies to determine the appropriate resources to invest in activities to stimulate the development and deployment of energy efficient and low carbon technologies.

The starting point for these efforts was a review of the costs and benefits of existing programs which had been developed last year through an interagency effort chaired by the Council on Environmental Quality. The results of this analysis were published in the "U.S. Climate Action Report—1997". This was followed with a sector-by-sector review of additional opportunities for carbon reductions, selecting strategic opportunities that cost-effectively can advance the development and deployment of energy efficient and low-carbon technologies across the economy. A recent study, by five Department of Energy laboratories of energy technologies that reduce carbon emissions, supported the sector-by-sector review. The Administration also considered the extensive recommendations of the President's Committee of Advisors on Science and Technology (PCAST) for new investments in energy research and development. These recommendations are contained in the November 1997 report "Federal Energy Research and Development for the Challenges of the 21st Century." The Treasury Department and several other Federal agencies worked together to evaluate the costs and benefits of potential tax incentives.

CCTI: EFFECTIVENESS OF PROGRAMS

Question. How is the administration planning to monitor the effectiveness of its programs to ensure they are functioning effectively?

Answer. The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The first such interagency evaluation, chaired by the White House Council on Environmental Quality, examined the performance of programs included in the Climate Change Action Plan. The results were published in the "U.S. Climate Action Report—1997" as part of the United States Submission to the Framework Convention on Climate Change. There were several opportunities for public comment. The Administration will continue monitoring the effectiveness of its programs through the programs' performance measures established under the Government Performance and Results Act. Several performance measures for EPA's climate change programs were included in our 1999 Annual Plan provided to the committee.

CCTI: IMPLEMENTATION OF KYOTO PROTOCOL

Question. As you know, there has been some concern that EPA's proposed increase of 130 percent for the Climate Change Technology Initiative indicates that the Administration plans to begin implementing the Kyoto protocol prior to its ratification by the Senate. How do you address such concerns?

Answer. The 1999 request for Climate Change has not come about because of Kyoto, nor is it an extension of the Kyoto treaty. Rather, the Climate Change request is intended to enhance the existing programs established in 1993 to meet our commitment under the Framework Convention on Climate Change that was negotiated by the Bush Administration and ratified by the Senate in October 1992. It also makes good economic sense, because it requires energy consumption and saves businesses and consumers money.

The request continues and improves upon work projects and efforts underway that improve energy efficiency and result in greenhouse gas reductions. Since these programs are good common sense measures. By fully funding our request, the Senate will be agreeing to meet goals for energy efficiency that have long been Executive Branch and Congressional priorities.

The Agency strongly believes these activities are prudent investments and must be pursued now for a number of reasons including:

These programs make good economic sense to undertake now. Improving the energy-efficiency of our businesses, homes, and vehicles can save businesses and consumers money and make our economy more productive.

It is prudent to take reasonable steps to reduce greenhouse gas emissions that have numerous other benefits to the economy and the environment.

Energy efficiency reduces other pollutants in addition to greenhouse gases, including nitrious oxide (NO_X), particulate matter (PM), and mercury.

Catalyzing a strong domestic market for energy efficiency will help U.S. manufacturers expand their leadership in the development and production of these technologies, strengthening our global competitiveness and technology leadership.

CCTI: COMMITMENTS UNDER KYOTO PROTOCOL

Question. Would any of the proposed activities in the budget help the U.S. to meet its proposed commitments under the Kyoto Protocol? What additional EPA activities would be necessary to implement the Kyoto Protocol if it were ratified?

Answer. EPA's objective is based on voluntary, profitable opportunities to reduce our greenhouse gas emissions while strengthening the economy and is consistent

with existing U.S. international obligations under the 1992 United Nations Framework Convention on Climate Change (FCCC), which the Senate ratified, to work toward reducing greenhouse gas emissions. These programs are a sensible, cost-effective step to begin to reduce greenhouse gas emissions. Improving the energy-efficiency of our businesses, homes, and vehicles can save businesses and consumers money and make our economy more productive, while also reducing greenhouse gas emissions.

EPA ANTI-LOBBYING REQUIREMENTS

Question. Please provide a list of the 20 largest EPA grantees who also engage in lobbying activities (not including states or municipalities).

Answer. EPA has taken strong steps to ensure and believes all its grantees are adhering to the government-wide lobbying requirements.

Attached is a chart indicating the 20 largest EPA grantees (excluding states or municipalities) of active projects. The chart indicates the total dollar amounts awarded, number of active grants, whether the recipient has certified that they will not use Federal funds for lobbying, and whether the recipient has submitted a disclosure form (SF–LLL) reporting the use of non-Federal funds for lobbying.

To implement Public Law 101–121 ("the Byrd Amendment"), EPA requires all recipients receiving new grants or cooperative agreements over $100,000 to certify they have not and will not use Federal funds to obtain Federal contracts, grants, cooperative agreements or loans. In addition, EPA requires recipients to complete a disclosure form if they use non-Federal funds to lobby (Note: Public Law 101–121 permits lobbying with non-Federal funds).

EPA has also aggressively implemented the Lobbying Disclosure Act of 1995 (this Act prohibits awards to nonprofit organizations classified as 501(c)(4) by the Internal Revenue Code of 1986 that engage in lobbying activities. This restriction applies to any lobbying activities of a 501(c)(4) organization without distinguishing between lobbying funded by Federal funds and lobbying funded by other sources). EPA includes a Term and Condition on all grants made to nonprofit organizations requiring the organization to certify that it is either not a non-profit organization described in Section 501(c)(4) of the IRS code or that if it is a 501(c)(4) organization it will not engage in lobby activities.

Finally, EPA includes a special term and condition on all grants (other than to State or local governments or Indian Tribes) emphasizing the restrictions imposed by the OMB Cost Principles on using grant funds for lobbying and includes a guidance document on lobbying restrictions in grant awards to nonprofit organizations and educational institutions.

POTENTIALLY RESPONSIBLE PARTY-LEAD IN SETTLEMENT CASES

Question. EPA's budget indicates there will be 136 construction completions by the end of fiscal year 1999. Given EPA's heavy reliance on Potentially Responsible Parties for these cleanups—an assumption is made that 70 percent of all cleanups will be PRP funded—how can we have any confidence in your estimate?

Answer. This question is referring to two different annual performance goals in the Annual Plan. The 136 construction completions are part of the 900 completions the Agency expects to finish by December 2001. EPA's 70 percent projection of PRP-lead applies to settlements for construction starts and not completions. In other words, EPA estimates that approximately 70 percent of new remedial work at NPL sites (excluding Federal Facilities) will be initiated by private parties. This estimate is based on recent history where PRP's have consistently settled for construction costs at 70 percent or more of the sites.

SUPERFUND RECOVERED FUNDS AVAILABLE FOR OBLIGATION

Question. GAO has notified us that EPA has recovered in fiscal year 1997 $210 million of the $249 million potentially available in unspent obligated funds. These funds are available for obligation. What specifically is EPA doing with these funds, and to what extent do they lessen the need for appropriations in view of the fact that EPA's fiscal year 1998 budget request did not include an assumption that these funds would be recovered? According to GAO, EPA has plans to deobligate an additional $25 million this year, and there is an additional $125 million available for deobligation from contracts completed in 1997. Does EPA's budget include an assumption that these funds will be recovered? If not, why not? How will these recoveries be applied.

Answer. Each year, EPA recovers unspent Superfund resources from contracts, grants and IAG's through deobligation and recertification of funds. Funds recovered are to be recertified, or obligated, in the same year they are deobligated. These re-

coveries assist the Agency in managing the Superfund program by shifting unused obligations at inactive or closed projects to active projects.

The Agency anticipates the recovery of unspent funds in setting and meeting annual performance commitments. These funds, as with carryover, are included in our planning needs in addition to annual appropriations. The recovery of unspent funds therefore, does not reduce the need for new obligating authority.

OSWER and the Office of Administration Management has established an annual process for recovering unspent funds from expired contracts. Each year 100 percent of the funds remaining in contracts that have been expired for six months or more are reviewed for potential deobligation. Using this process all of the funds identified by GAO in contracts that expired in 1997 will be reviewed and, where appropriate, deobligated in fiscal year 1999. In addition, the Office of Grants Debarment will continue working with the Regions to expedite the closeout of expired assistance agreements and grants.

In fiscal year 1998, the Agency anticipates recovering between $75 and $100 million in deobligated funds. These funds will be directed, as in prior years, to response actions/cleanup efforts.

ACCIDENT INVESTIGATIONS

Question. What is requested in the budget for chemical accident investigations? Why is EPA requesting funds to support this activity, in view of the fact that the Chemical Safety Board is now operational?

Answer. EPA requested $1,000,000 and 10 FTE in the President's budget for activities related to accident investigations and to support the Chemical Safety Board (CSB) in conducting investigations.

In the intervening months since submitting the 1999 President's request for this program, the Agency has reviewed our resource estimate. With the Board becoming operational, EPA is now focusing our activities on those foreseen under Section 112(r) of the Clean Air Act Amendments and other relevant statutes: establishing an effective chemical safety and accident prevention program. To carry out these responsibilities, the Agency is currently estimating, based upon current assumptions, a minimum resource requirement of approximately 6 FTE and $750 thousand in fiscal year 1999.

EPA recognizes that the Chemical Safety Board has the lead responsibility for investigating the root causes of chemical accidents. We are currently working on an MOU with the Board to clarify our roles. The MOU will cover coordination of field activities as well as research, information sharing, accident databases, international activities, and other areas of chemical safety.

EPA (along with OSHA) continues to have a fundamental responsibility for chemical safety and accident prevention programs. EPA's program emphasizes off-site community/environmental protection (OSHA's, worker protection). We believe a complementary accident prevention effort will ensure success in investigating and preventing chemical accidents. For the immediate future, the Agency's priority will be to continue to build with our available resources a credible accident prevention program in cooperation with the Board, OSHA and other agencies. EPA will concentrate our activities on:

Completing accident reports.—EPA's priority for fiscal year 1998 and early fiscal year 1999 will be to complete the 9 major investigations reports begun prior to the Board's funding. These reports are in various stages of the investigation and documentation process. By the end of fiscal year 1998 we expect that six of the nine reports will be completed. The remaining three will be published in early fiscal year 1999.

Respond to and Implement Board Recommendations.—As EPA's accident report activity winds down in early fiscal year 1999, we anticipate a significant growth in workload to respond to and take actions on the Board's recommendations to EPA resulting from their investigations and other responsibilities. This is a statutorily mandated responsibility for EPA under CAA § 112r(6)(I) which became effective with the board's funding, and reflects the experience of other agencies with independent investigatory boards; i.e., DOT and DOE.

We expect that several recommendations will be generated by accidents investigated by the Board and that these recommendations would likely be related to emergency planning, lists of substances subject to emergency planning or chemical accident prevention, and hazards analysis, process safety management, or emergency response under the Risk Management Program for prevention of chemical accidents. The recommendations might call for regulatory action, outreach or guidance to the regulated community or state and local levels.

Information Gathering.—We will gather information in the field to improve our understanding of how to prevent accidents, so we can respond faster and more effectively to Board recommendations. This activity will be a small but essential part of the program. It stems from our authorities for accident prevention under the CAA § 112(r) and CERCLA § 104 and information gathering under CAA § 114 and § 307 and CERCLA § 104. The work will be done in cooperation with other agencies such as the Board and OSHA and would complement their efforts (much as FAA and NTSB work together in the field).

Prevention Actions.—In addition to what EPA learns from the Chemical Safety Board, we will also act to prevent accidents, based upon what we learn in the field and from other sources (e.g., chemical safety audits, past accident investigations, research, compliance, enforcement, etc.). Our chemical safety responsibilities under CAA § 112r (1), (3), (7), (8), and (9) and CERCLA § 104 (b) and (e) require us to take actions to prevent accidents. A top priority will be to ensure that accident stakeholders are notified promptly so they take steps to minimize risk. As warranted, we will also develop guidance, modify existing rules and develop new ones, conduct and promote research, and communicate with industry, government and the public to enhance the application of safety measures.

YEAR 2000: BUDGET REQUEST

Question. How much is included in EPA's budget request for activities necessary to ensure EPA will be Year 2000-compliant? Is EPA confident that all necessary steps will be taken to ensure all systems will be compliant in a timely fashion? Please provide a timeline for steps that will be taken to ensure Y2K compliance.

Answer. The Agency's most recent estimates for Year 2000 (Y2K) are:

Fiscal year	*Cost*
1996	$0.8
1997	5.3
1998	13.0
1999	6.1
2000	1.0
Total	26.2

EPA has adopted an aggressive strategy to ensure that Agency information technology assets will be compliant in a timely fashion. The Agency has established a Senior Y2K Council, under the direction of the CIO, to review progress, receive early warnings on potential problems, and take necessary action to avoid critical delays. An independent certification program has been established for mission critical systems to ensure compliance. The timetable the Agency has adopted conforms to the government-wide milestones established by OMB. The critical dates in the time-line include completing renovations for mission-critical systems by September 1998; validation by January 1999; and implementation by March 1999. This schedule allows for nine months of operation in a production environment to identify and fix any bugs.

PROJECT XL: SUPERIOR ENVIRONMENTAL PERFORMANCE

Question. As perceived by many industry and state stakeholders, a principal obstacle to success in Project XL has often been EPA's definition of "superior environmental performance." This definition has often been viewed as overly restrictive and has been believed to have contributed to eliminating worthy proposals from XL consideration. Please explain EPA's current stance regarding this issue. Finally, are there any present XL proposals where significant differences exist between EPA and stakeholders over the definition of "superior environmental performance?"

Answer. Project XL tests cleaner, cheaper, and smarter approaches to achieving the nation's environmental goals. This objective distinguishes XL from many other Agency actions for regulatory change that seek to offer either simple efficiencies of administrative process or site-specific customized alternatives to the one-size-fits-all traditional system of environmental protection.

EPA engaged in a deliberative process to define a broad array of qualitative and quantitative factors in making a determination of "superior environmental performance (SEP)." In a Federal Register notice dated April 23, 1997, EPA established a procedure for determining baseline performance against which SEP would be measured. Once the baseline has been met, EPA weighs quantitative and qualitative factors that can produce superior performance. These factors include but are not limited to: reduction in pollutants below the baseline; risk reduction; pollution prevention; historic demonstration of leadership in environmental performance; and ad-

dressing environmental concerns of local stakeholders including issues not governed by EPA rules (e.g., habitat preservation, green space, odors).

When EPA developed this method for evaluating SEP over a year ago, it was based on our experience with XL proposals and projects to date. The Agency explicitly recognized that the described approach may not be appropriate in all situations. We are currently exploring ways to ensure superior environmental performance in other environmental protection scenarios, such as in hazardous waste remediation. We will be issuing a Federal Register notice that actively solicits projects in a number of areas that will require other approaches to SEP including: environmental management systems; market-based approaches; and administrative paperwork reductions.

EPA is presently implementing and evaluating over two dozen XL proposals in which the Agency definition of SEP has served as a beneficial criterion. However, we have one XL proposal where some stakeholders have expressed philosophical differences over what level of environmental performance should be required for participation in XL. Andersen Windows has submitted a proposal in which they have proposed to establish an air emissions cap and a per-unit of production emissions rate that are both higher than they currently emit. EPA has suggested a number of possible alternatives that we feel could achieve SEP and Andersen is currently considering those alternatives, as well as other options that achieve superior environmental benefits.

CSI: USEFULNESS OF POLICY

Question. The Common Sense Initiative (CSI) has been criticized for its perceived insistence on total consensus within the subcommittees. EPA, in 1997 began evaluating the usefulness of this policy. What are the results of that analysis thus far? In addition, the Automobile Sector Subcommittee lost participants partly due to this problem. Are any other subcommittees presently experiencing similar dissension over this issue?

What level of funding is EPA committing to ensure that the Agency fulfills its commitment to the Common Sense Initiative involving the metal finishers?

Answer. In February 1997, the results of a broad CSI evaluation were presented to the CSI Council which showed that consensus was being implemented in a variety of ways, and not to the full satisfaction of all parties. As a result, a white paper, dated October 1, 1997, Consensus Decision-Making Principles and Applications in the EPA Common Sense Initiative (attached), was created as guidance for the Council and subcommittees. This document was unanimously adopted by the Council, and has led to a greater level of satisfaction with the operating principles of consensus within the CSI framework. To our knowledge, there is no current dissension over this issue in the subcommittees.

The EPA's lead office on the Metal Finishing Goals 2000 Project is the Office of Policy, Planning and Evaluation (OPPE). OPPE has budgeted $783,500 on this sector this fiscal year. This budget includes administrative support of the CSI Metal Finishing Subcommittee, implementation of the Strategic Goals Program, grants to industry trade associations to help with program operation, and support of EPA regional programs.

AUDIT POLICY: ENCOURAGING SELF-POLICING

Question. Please discuss all present state-audit related legislation, enacted or proposed, that the Agency objects to. In particular, discuss cases in which the Agency (1) is considering the withholding or denying of delegation of any environmental program; or (2) is considering overfiling of state enforcement cases. Also, please list and discuss the status of any EPA and state discussions that are ongoing and relate to EPA objections to a state's audit related legislation or policy.

Answer. In general, EPA works with states both prior to and following enactment of state audit privilege and immunity legislation to identify and express its policy and legal concerns. As a policy matter, EPA believes that audit privilege laws are anti-law enforcement, impede public right-to-know, and chill public reporting of illegal activity to law enforcement authorities. While EPA supports penalty mitigation as an incentive for self-policing, EPA believes that to immunize serious violations—including those where there is criminal conduct, imminent and substantial endangerment, and actual harm—is wrong. Such immunity laws discourage needed investments in pollution control, lower the standard of care, undermine the rule of law, and endanger the public. Additionally, evidence developed in civil or administrative cases often leads to discovery of criminal violations so that civil immunity may undermine government's ability to enforce criminal laws.

EPA also has a legal obligation to review State audit laws. Federal environmental laws in effect for more than a decade mandate that EPA ensure that authorized, delegated, or approved State environmental programs (authorized programs) have and maintain minimum information gathering authority, public access to certain types of information, and minimum civil and criminal enforcement authority. See, for example, Clean Water Act section 402(b), 33 U.S.C. 1342(b); Clean Air Act section 502(b), 42 U.S.C. 7661a(b); Resource Conservation and Recovery Act section 3006(b), 42 U.S.C. 6926(b); 40 C.F.R. 123.26–.27 (CWA/NPDES); 40 C.F.R. 70.11 (CAA); 40 C.F.R. 271.15–.16 (RCRA/Sub. C).

EPA's interpretation of the impact of a state audit law on the state's ability to fully meet Federal statutory and regulatory requirements is explained in its ''Statement of Principles,'' which was issued by EPA on February 14, 1997. EPA is particularly concerned with whether a State has the authority to obtain immediate and complete injunctive relief; to recover civil penalties for significant economic benefit, repeat violations and violations of judicial or administrative orders, serious harm, and activities that may present an imminent and substantial endangerment; to obtain criminal fines and sanctions for willful, knowing, and negligent violations of Federal law; to retain information gathering authority required under Federal delegations; and to preserve the right of the public to obtain information and bring enforcement actions.

As of mid-May 1998, to EPA's knowledge, audit privilege and immunity legislation is pending in Massachusetts, New Jersey, New York, Delaware, Pennsylvania, South Carolina, Oklahoma, Missouri, California, and Hawaii. When an audit privilege and immunity bill appears to be moving forward in a State legislature, EPA expresses the policy and legal concerns (discussed above) it finds given the terms of the individual bill. These efforts are designed to ensure that the potential ramifications of an audit privilege and immunity law on enforcement and information gathering authority are fully considered prior to enactment.

Once a state audit privilege and immunity bill is enacted into law, EPA has adopted a pragmatic, problem solving approach to addressing legal adequacy in specific states. EPA and the state use a process under which they identify the legal impediments to Federal program authorization resulting from the state's audit law. The impediments can then be addressed through tailored statutory amendments, or a state Attorney General opinion interpreting the law consistent with Federal requirements, or both.

EPA has reached agreement on needed legislative changes with Utah, Texas, Michigan, Wyoming, and, pending enactment by the state legislature, Ohio. EPA has also received an interpretation from the Virginia Attorney General concluding that its state audit privilege and immunity law is inapplicable to federally authorized programs, and thus resolving any authorization issues for that state. EPA's agreements with these states are limited to identifying those changes to their audit laws needed to meet minimum legal requirements for Federal program authorization. EPA is currently discussing the effect of an enacted audit privilege and immunity law with the states of Kentucky, South Carolina, Indiana, Minnesota, Arkansas, Colorado, Montana, South Dakota, Alaska, and Oregon, as follows:

Kentucky.—In December 1997, EPA provided a written statement of concerns with the state's audit law to the state at its request. In late January 1998, EPA met with the State. In February, a bill containing partial changes to the law was introduced in the state legislature and referred to committee. The legislature adjourned in April without further action on the bill.

South Carolina.—In March 1998, EPA sent a reply to South Carolina's response to EPA's letter detailing specific concerns with the state's audit law. In March and April 1998, EPA held a series of conference calls with the state, and the parties appear close to agreement on needed changes to the audit law. The South Carolina legislature is scheduled to adjourn in early June.

Indiana.—On March 4, 1998, Steven Herman and Indiana Department of Environmental Management Commissioner John Hamilton met to discuss concerns with the state's audit law. Staff held a series of follow-up conference calls in March and April 1998. In April 1998, the state submitted a draft Attorney General's statement. EPA is currently preparing a letter to the state describing its remaining concerns.

Minnesota.—Since December 1997, EPA and the state have held several conference calls to discuss the effect of the audit law. In February 1998, the state sent EPA a draft Attorney General statement. In May 1998, EPA sent a letter to the state describing its remaining concerns.

Arkansas.—The state has not yet replied to EPA's letter from September 1997 to the Arkansas Department of Pollution Control & Ecology outlining legal concerns with Arkansas' audit privilege and immunity law. The Arkansas legislature does not

reconvene until 1999 and so cannot consider amendments to their law until then. EPA has continued to speak informally to the state about the audit law.

Colorado.—Since 1994, before the enactment of the audit law, EPA has sent a series of letters to and participated in meetings with the state to discuss the effect of the state's audit law. Most recently, in February 1998, EPA sent a letter to the state, responding to the state's November 1997 letter. In March, EPA staff began to participate in a series of meetings with state officials.

Montana.—In November 1997, EPA sent a letter to the state posing questions regarding the impact of the state's audit law. In April 1998, EPA received a draft state response, which is currently under review.

South Dakota.—In June 1997, EPA sent a letter to the state posing questions regarding the impact of the state's audit law. In March 1998, the State sent a draft Attorney General opinion to EPA, which is currently under review.

Alaska.—In March 1998, EPA sent a letter to the state regarding the impact of the state's audit law. In April 1998, the State sent a response, which is currently under review.

Oregon.—EPA has conferred informally with the State and is currently preparing a letter to the state regarding the impact of the state's audit law.

With regard to overfiling, the Agency's analysis shows that overfilings are a relatively rare event. Overfilings represent a fraction of 1 percent of state enforcement cases. EPA considers overfiling state enforcement actions where the state's action in response to environmental violations is not timely or appropriate. Where a state law immunizes serious violations, the state may be unable to take timely and appropriate enforcement action. If the state's response to self-disclosed violations is timely and appropriate, however, EPA will not pursue formal enforcement actions. EPA's exercise of its enforcement discretion generally takes into account considerations such as the nature of any harm to human health or the environment, the status of remedial measures, the need to ensure that violators do not obtain an economic advantage over law-abiding competitors, and other factors.

A specific example of a case in which a state audit privilege and immunity law interfered with a state's ability to enforce in a timely and appropriate manner involves a company that violated the Clean Air Act for as many as ten years. In some cases, the facility's violations resulted in excess emissions of volatile organic compounds (VOC's), which can contribute to high levels of ozone and cause significant health and environmental problems at ground level. The company's violations are particularly troubling because they occurred in an area that already fails to meet national air quality standards for ozone. Under the state audit law, the company was granted immunity from state prosecution and all penalties were waived, including penalties to recover the substantial economic windfall that the company gained from violating the law. Even though the company's law-abiding competitors invested in the control equipment needed to meet VOC standards, the immunity granted under the state audit law made it necessary for EPA to step in and seek to ensure that the company not be allowed to profit unfairly and to the detriment of public health and the environment because it did not make the same timely investment.

AUDIT POLICY: AUDIT INFORMATION PRIVILEGE

Question. EPA has consistently stated its strong objection to creation of an audit information privilege. Is there any conceivable statutory approach, or specific wording, that EPA can propose to either Congress or the states that would satisfy the Agency's concerns about the creation of a limited evidentiary privilege for audit-related documents?

Answer. No. EPA views any environmental audit privilege as bad public policy and simply unnecessary. Audit privilege laws interfere with law enforcement, impede public right-to-know, and breed litigation. Audit privilege laws keep environmental compliance information secret from the state and from the public. Thus, an audit privilege interferes with a state's ability to obtain the information it needs to protect human health and the environment. For example, information on the cause of violations, the environmental harm resulting from violations, and the steps needed to correct the violation and prevent recurrence may all be shielded by an environmental audit privilege. In the case of an actual or threatened imminent or substantial endangerment, the regulator should have immediate and unencumbered access to the best available information, which may be present in an audit report. If so, information needed to protect the public would be unavailable due to the procedural hurdles set up by an audit privilege.

An audit privilege also makes critical information unavailable to the public. For example, a company may be able to use an audit privilege to hide information concerning its release of hazardous pollutants into the community even where those

pollutants are causing health problems for the public. The public may not be able to obtain or use the information to stop the emissions, or to seek compensation for their medical bills or other damages resulting from the hazardous pollutants.

Many state audit privilege and immunity laws also contain sanctions for those who disclose violations based on information taken from the audit. Such sanctions protect the violator at the expense of the good citizen attempting to report violations or potential hazards to the State. Historically, public tips and citizen enforcement have served as important sources of information and triggers for governmental environmental enforcement and compliance actions. Audit privileges interfere with citizens' ability to protect themselves and others.

Audit privilege laws also engender expensive and counter-productive litigation. Under state audit privilege laws, where an audit privilege claim is asserted, the party seeking the information must invoke whatever legal proceedings are available in the particular jurisdiction to obtain the documents. Such proceedings usually involve in camera hearings at which testimony and other independent evidence is often required in order to demonstrate that a violation has been committed and remains uncorrected or that another exception to the privilege applies. Such an inquiry is particularly likely to be complex and time consuming because many such laws contain ambiguous definitions, standards, and procedures for application of the privilege. If any documents are determined to be privileged, then a further set of hearings is likely to follow in which the plaintiff or prosecutor must demonstrate that all other evidence was obtained independently of the privileged document. The burden of such "exclusionary rule" and "fruit of the poisonous tree" proceedings has long been recognized in our criminal justice system.

Research shows that an audit privilege is simply not needed to encourage environmental auditing. Environmental auditing has increased to the point where it is already standard practice for 75 percent of corporations responding to a 1995 survey by Price Waterhouse, and is growing among the remaining 25 percent as well. Most companies do not view privilege as a precondition to conducting auditing—they see good business reasons for auditing. A 1995 Government Accounting Office study of the practice of environmental auditing also recognizes that environmental auditing emerged as a compliance management tool in the late 1970's, and developed and spread through the 1980's, as corporate managers realized that environmental auditing was an important tool for managing compliance and environmental performance. United States Government Accounting Office, Report to the Ranking Minority Member, Committee on Governmental Affairs, U.S. Senate, "Environmental Auditing: A Useful Tool That Can Improve Environmental Performance and Reduce Costs" (GAO/RED–95–37 April 1995).

DRINKING WATER RESEARCH PRIORITIES FOR FISCAL YEAR 1999

Question. EPA faces a substantial drinking water regulatory agenda. What are EPA's drinking water research priorities for fiscal year 1999? Are the requested resources and institutional capacity adequate to meet these priorities?

Answer. The EPA has provided and will continue to provide strong support to the Safe Drinking Water Act and 1996 Amendment (SDWA) priorities. The Agency developed two peer reviewed research plans to address many of these SDWA priorities [Research Plan for Microbial Pathogens and Disinfection By-Products in Drinking Water (December 1997), and Research Plan for Arsenic in Drinking Water (February 1998)]. Implementation of these plans and other high priority drinking water research are coordinated between EPA's Offices of Research and Development, and Water.

In 1999, EPA has requested a total of $35.6 M and 189.8 workyears, which will continue to provide strong support to the SDWA priorities. The Agency's drinking water research will focus on sensitive subpopulations, adverse reproductive effects of drinking water contaminants, research on selected disinfectant by-products and arsenic, and waterborne disease occurance studies, as well as treatment and maintenance of water quality in the distribution system.

REGIONAL HAZE: ADVANCE RULEMAKING

Question. Since the regional haze program is one of aesthetics, and not driven by public health concerns, why is the Agency advancing this rulemaking ahead of other funding priorities and rulemakings which will provide public health benefits? Isn't this inconsistent with a risk-based approach to regulation? Shouldn't, at a minimum, the Agency realign the schedule for regional haze SIP's to coincide with the NAAQS PM–2.5 process?

Answer. The regional haze program addresses more than "aesthetics." Improvements in visibility have real quality of life and economic benefits as well. The EPA

(Environmental Protection Agency) is developing the regional haze rulemaking consistent with the schedule established in section 169B of the Clean Air Act, which calls for EPA to promulgate regulations which assure reasonable progress toward meeting the national goal of preventing any future and remedying any existing impairment of visibility within 18 months of receiving the recommendations from the Grand Canyon Visibility Transport Commission. Section 169B further calls for EPA to require a SIP submittal one year from promulgation of these regulations. The rule proposed by EPA would limit the scope of this SIP to addressing initial planning activities.

Because fine particles are the principle cause of visibility impairment, the proposal emphasizes the importance of coordination of planning and controls strategy implementation activities for regional haze and PM–2.5 standards.

Another regional haze SIP revision would be required subsequently in which the States would have flexibility to establish appropriate reasonable progress targets and to include any necessary emission management strategies to achieve these targets. It is EPA's intent to coordinate the timing of this second SIP revision for regional haze with the SIP's required for PM–2.5 nonattainment areas.

The Transportation Equity Act, which recently passed the House and Senate, also requires EPA to harmonize the schedules for State submissions of regional haze and PM–2.5 SIP's.

REGIONAL HAZE: CLASS I AREAS

Question. How many of the 156 class I areas currently have the necessary monitors to acquire all the data required by the proposed rule?

Answer. There are currently 58 class I areas that have monitoring to measure PM–2.5 concentrations for visual air quality and other related data. Of the 156 class I areas, 98 do not currently have any monitoring.

Question. How much funding is needed for the monitoring networks for the class I areas?

Answer. Seventy-eight new visibility sites in or near Federal class I areas are planned for deployment in 1998 and 1999. The estimated costs are $2.5 million for 1998, and $4.4 million for 1999.

Starting in the year 2000, approximately $3.6 million per year will be needed for the expanded network of 108 visibility sites.

Question. How much funding in the fiscal year 1999 budget request is for the establishment of this monitoring network?

Answer. EPA has identified a need for $3.1 million for expanding the visibility monitoring network as part of § 103 State grant dollars. The budget request includes $1.3 million for the existing monitoring work. The total is $4.4 million.

Question. Will EPA fund all the costs associated with the monitoring network or will states be required to provide funding?

Answer. EPA will pay for all the costs associated with monitoring equipment, analysis and quality assurance. The Federal Land Managers (NPS, FS and FWS) provide the field personnel to operate the monitors. The States will not have to incur any additional cost.

Question. How much effort has EPA devoted to the coordination of the monitoring networks needed for visibility and for the PM–2.5 ambient standards?

Answer. EPA recognizes the importance in coordinating the monitoring networks for visibility and PM–2.5. Visibility impairment in class I areas is caused primarily by fine particles. Measurements of fine particles in class I and rural areas can help characterize the regional transport of fine particles. The visibility aerosol monitor (called the IMPROVE PM–2.5 sampler) is very comparable to the PM–2.5 Federal Reference Method (FRM) monitor which will be utilized in the new PM–2.5 network. In fact, the PM–2.5 monitoring regulations provided for coordination between the two networks by allowing the States to use the IMPROVE PM–2.5 sampler in lieu of the PM–2.5 FRM at regional background/transport monitoring sites (2 required per State). This allows the visibility monitors to provide background and regional transport information to the PM–2.5 program in a format which is comparable to the PM–2.5 aerosol measurements.

EPA Regional Offices are working closely with the States to coordinate the development and review of PM–2.5 network designs, an important component of which is regional transport and regional background monitoring, with existing and potential new IMPROVE visibility monitoring site locations. Furthermore, EPA chairs the Interagency IMPROVE Steering Committee which oversees the development of the nation's visibility network. This committee consists of representatives of State agencies, Federal Land Management Agencies, EPA, and NOAA. All parties are working very closely to meet their mutual needs for PM–2.5 and visibility monitoring.

REGIONAL HAZE: VISIBILITY RESEARCH

Question. When Congress passed the Clean Air Act Amendments of 1990, it envisioned the States taking the lead on specifying the substance of the program and EPA's playing an important supportive role. Accordingly Congress authorized $40 million over five years for EPA to conduct visibility research and report writing. How much funding has EPA devoted to visibility research and report writing since 1990?

Answer. Best estimates for visibility research since 1990 are:

By Calendar year:

1991: Project MOHAVE: $2,766,000—Visibility Monitoring for all Class I areas: $500,000; and Contribution to National Academy of Sciences review of Visibility Science: $100,000.

1992: Project MOHAVE: $724,000—Visibility Monitoring for all Class I areas: $1,000,000; Castnet Visibility Monitors: $207,000; and Inter-Agency Workgroup on Air Quality Modeling: $700,000.

1993: Project MOHAVE: $450,000—Visibility Monitoring Support for all Class I areas: $1,000,000; Castnet Visibility Monitors: $486,000; and Inter-Agency Workgroup on Air Quality Modeling: $290,000.

1994: Project MOHAVE: $117,000—Grand Canyon Visibility Transport Commission: $1.4 million; Visibility Monitoring Support for all Class I areas: $900,000; Visibility Impairment and Process and Measurement Research: $550,000; and Castnet Visibility Monitors: $429,000.

1995: Project MOHAVE: $290,000—Visibility Monitoring Support for all Class I areas: $1,000,000; and Castnet Visibility Monitors: $226,000.

1996: Visibility Monitoring Support for all Class I areas: $1,000,000; and Castnet Visibility Monitors: $186,000.

1997: Project MOHAVE $300,000—Visibility Monitoring Support for all Class I areas: $1,200,000; and Castnet Visibility Monitors: $343,000.

1998: Visibility Monitoring Support for all Class I areas: $2,300,000; and Castnet Visibility Monitors: $300,000.

NOTE: The work itemized above does not include substantial resources to develop new regional modeling platforms, such as MODELS3. The Environmental Protection Agency (EPA) has spent approximately $6.1 million on regional particulate model development. These air quality models will be used by EPA and the States for strategy assessment during the coordinated implementation of ozone, fine particulate matter, and regional haze programs.

Question. Has EPA completed all of the reports regarding the science and technology of air quality visibility that Congress requested?

Answer. Yes. The EPA has completed all requirements for reports in § 169B(a) of the Clean Air Act. Specifically, the EPA completed its report to Congress on the effects of the Clean Air Act Amendments of 1990 on Visibility in mandatory Class I Federal areas in October 1993 ("Effects of the 1990 Clean Air Act Amendments on Visibility in Class I Areas: An EPA Report to Congress," EPA 452/R–23–014). The EPA completed an interim findings report on research related to visibility in February, 1995 ("Interim Findings on the Status of Visibility Research," Office of Research and Development, U.S. Environmental Protection Agency, February 1995).

Question. How much funding does EPA need in today's dollars to complete these assignments?

Answer. No funding is needed for general research on the science of visibility. However the EPA has requested funds to support work on technical tool refinement to help States implement a visibility protection program.

Question. Should we ask EPA to complete this work or should it be reassigned to the States?

Answer. The EPA has made substantial progress in developing the needed technical products and is currently working with the States on relevant technical issues. For example, EPA is the major financial supporter of the Western Regional Air Partnership on issues related to implementing strategies to protect visibility. The EPA looks forward to continuing that cooperative relationship in addressing national regional haze protection. As compared to continuing to provide support for unified efforts to develop a nationally consistent set of technical products, EPA believes it would be far more expensive to attempt to fund individual States to develop technical tools that will be needed by all States.

Question. How much time and money would the States need to take on this assignment?

Answer. The States will need to develop their own priorities for addressing visibility technical work that is specific to their needs. The Environmental Protection Agency (EPA) has supported technical work for implementation of many Clean Air

Act programs, including the existing visibility protection provisions. The EPA looks forward to continuing its support role with the States.

MEXICO BORDER FUNDS

Question. There are a number of financial and regulatory problems which complicate the installation and successful hookup of drinking water and wastewater services to unserved households in the U.S.-Mexico border region, including (1) household capital costs of improvements, (2) jurisdiction conflicts between state and local governments and water supply corporations, (3) inconsistent national, state, and local building code requirements associated with home improvements required for participation in the water projects, and (4) the lack of coordination between EPA, HUD, and USDA water infrastructure projects. How significant are these problems and what remedies has EPA used or planned to use to address these problems?

Answer. The problems that are identified are not significant in the sense that they are not preventing the construction of the water and wastewater infrastructure in the colonias. These problems have been known for some time and positive efforts have been initiated and are being implemented to minimize their effects.

1. Household capital costs

The EPA colonia grants can be used to assist the completion of household connections. This type of assistance has been made a priority in colonia projects where the initial funding has successfully created the needed treatment and collection system. In addition, the Border Environment Infrastructure Fund (BEIF) can include household connections in the project financing structure. The BEIF is an EPA funded program administered by the North American Development Bank to assist in the design and construction of water and wastewater infrastructure in the U.S./Mexico border.

2. Jurisdiction Conflicts

State laws and requirements define the jurisdiction and authority for providing water and wastewater service to communities. In cases where there is overlap the state will mediate. While there have been some conflicts this is not a major issue. The States have provided a cooperative environment that has resulted in fair and equitable results to all parties without major delays to providing needed services to the colonias.

3. Inconsistent Housing Code Requirements

The requirement for a licensed plumber for indoor plumbing and household connections is the only code-related issue associated with EPA funds. This issue has been resolved on a case-by-case basis at the local level. Code requirements are specified at the state and local level, not by EPA.

4. EPA, HUD, USDA Coordination

It is recognized that there may have been issues regarding coordination among Federal agencies during the early stages of the colonias program. Over time, however, the involvement of several Federal agencies has been an asset, since an ongoing dialogue has resulted in a cooperative, shared approach to solving problems on a project-by-project basis. This has been established for several years through a Texas colonias group made up of Federal and state agencies involved with colonias water and wastewater infrastructure. This effort was initially begun by EPA, and has continued under the chairmanship of the Texas Water Development Board.

REG FLEX: SBREFA FEDERAL AND PROPOSED RULE CONFLICT

Question. During the SBREFA panel process, did any of the small entity representatives ("SER's") provide the Panel with any information regarding the following: other Federal rules that the SER's believe overlap, duplicate or conflict with the proposed rule; any reporting, recording or monitoring requirements that SER's believe small entities will be required to comply with if the proposed rule is promulgated; the cost of any equipment likely to be required to comply with the proposed rule; the cost of land or facilities likely to be required to comply with the proposed rule; any increase in pressures for consolidation within the industry; and any impact on employment within small entities. (OPPE should confer with OW and OAR when preparing response).

Answer. To date, EPA has completed six Small Business Advocacy Review (SBAR) Panels under the Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act (RFA/SBREFA) (See Table 1). Each SBAR Panel has four members: EPA's Small Business Advocacy Chair, a senior manager from the EPA program office developing the subject rule, the Chief Counsel for Ad-

vocacy of the Small Business Administration and a representative of the Office of Information and Regulatory Affairs within the Office of Management and Budget. Every rule is unique, so each SBAR Panel addresses new issues that are relevant to the subject rule, but in every case, pursuant to section 609(b) of RFA/SBREFA, the Panel collects the advice and recommendations from Small Entity Representatives (SER's) on issues relating to key elements of an Initial Regulatory Flexibility Analysis, which are:

—A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply.

—Projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record.

—An identification, to the extent practicable, of all other relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.

—Any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

Within 60 days of its convening and after consulting with the SER's and considering any other materials the Agency has prepared, the Panel prepares a report for the Administrator of EPA to consider in the preparation of the proposed rule. In each SBAR Panel report, the comments of the SER's are summarized and discussed. Copies of the written SER comments are also attached to the reports. With respect to the six specific issues in your question, comments from SER's to the Panel on these issues varied considerably from rule to rule for the six completed SBAR Panels. Detailed discussions of the comments and copies of the written comments are available in each of the SBAR Panel reports. A summary of input from the SER's on these six specific issues is presented below in Table 2.

TABLE 1—SUMMARY OF EPA RFA/SBREFA SBAR PANELS

Title (Office)	Convened	Completed
Nonroad Diesel Engines (OAR)	Mar. 25, 1997	May 23, 1997.
Industrial Laundries Effluent Guideline (OW)	June 6, 1997	Aug. 8, 1997.
Stormwater Phase II (OW)	June 19, 1997	Aug. 7, 1997.
Transportation Equipment Effluent Guideline (OW)	July 16, 1997	Sept. 23, 1997.
Centralized Waste Treatment Effluent Guideline (OW)	Nov. 6, 1997	Jan. 23, 1998.
UIC Class V Wells (OW)	Feb. 17, 1998	April 17, 1998.

Question. During the SBREFA panel process, did any of the small entity representatives ("SER's") provide the Panel with any information regarding the following:

TABLE 2

Specific Subquestions	Nonroad	Stormwater	Laundries	TECI	CWT	UIC C–V
Other Federal rules that the SER's believe overlap, duplicate or conflict with the proposed rule.	Y	Y	Y	Y	Y	Y
Any reporting, recording or monitoring requirements that SER's believe small entities will be required to comply with if the proposed rule is promulgated.	Y	Y	Y	Y	Y	Y
The cost of any equipment likely to be required to comply with the proposed rule.	N	N	Y	Y	Y	N
The cost of land or facilities likely to be required to comply with the proposed rule.	N	N	N	N	N	N
Any increase in pressures for consolidation within the industry.	N	N	Y	N	N	N

TABLE 2—Continued

Specific Subquestions	Nonroad	Stormwater	Laundries	TECI	CWT	UIC C–V
Any impact on employment within small entities.	N	N	Y	N	Y	N

REGULATORY FLEXIBILITY: NATIONAL PRETREATMENT PROGRAM

Question. Reg Flex requires an identification of rules which duplicate, overlap or conflict with the proposed rule. On page 9–5, the relevant portion of the Reg Flex analysis states, in its entirety, the "EPA addressed concerns about duplication by excluding onsite laundries, since these facilities are the most likely to be covered by another effluent guideline or standards or might be covered by future effluent guidelines. See EPA's discussion of the onsite laundries exclusion in the preamble to the proposed rulemaking."

Why doesn't the Reg Flex analysis make any mention of the National Pretreatment Program which currently regulates companies like industrial laundries that send their wastewater to public sewage plants? Isn't there some overlap or duplication between this new rule and the pretreatment program?

Answer. The proposed pretreatment standards do not overlap or duplicate existing requirements under EPA's pretreatment program. Rather, the proposed standards, if promulgated, would represent a new component of the existing program. As you know, EPA regulations, adopted pursuant to section 307 of the Clean Water Act, among other provisions, establish a national program to control pollutants which may pass through or interfere with treatment processes at publicly owned treatment works (POTWS) or which may contaminate sewage sludge. Under the national program, POTW's administer their own programs to regulate the discharge of industrial waste waters, such as those from industrial laundries, into the POTW. The national program contains three types of substantive restrictions on the introduction of pollutants into POTW's that apply to those dischargers of industrial waste waters. These standards are nationally-applicable prohibited discharge standards (such as the prohibition against discharges of explosive materials), nationally-applicable categorical pretreatment standards and locally-applicable local limits. Each of these standards is designed to implement the proscription against industrial discharges that would pass through the POTW plant untreated or would interfere or otherwise be incompatible with continued operation of the POTW plant. POTW's develop local limits on a case-by-case basis sometimes with limited data. (EPA regulations describe the specific circumstances in which a POTW must develop local limits, generally related to the size of the POTW and whether the POTW is receiving pollutants that pass through or interfere with the operation of the POTW, 40 C.F.R. § 403.8.) Categorical pretreatment standards, such as those in the new rule for industrial laundries, are based on review of a larger, nationwide data set to evaluate costs and technologies.

There is no overlap or duplication between existing local limits and the proposed pretreatment standards, because any new categorical standards, if adopted, would apply only to the extent they are more stringent than the requirements already imposed by the local wastewater authority (or that arise as a result of the general prohibitions on certain discharges). Stated another way, the new standards are incremental to the existing requirements of the National Pretreatment Program. The existing requirements (such as those imposed by a local pretreatment program) are incorporated into the regulatory flexibility analysis as part of baseline economic conditions. Then, costs to comply with new pretreatment standards are added to that baseline.

REGULATORY FLEXIBILITY: INDUSTRIAL LAUNDRIES COMPLIANCE

Question. What about new reporting and record keeping requirements? Why doesn't the Reg Flex Analysis describe the host of requirements that industrial laundries will have to comply with as a new "categorical" industry? These requirements may not be printed in this rule, but this rule puts laundries on the list of industries with "categorical" standards, and all "categorical" standards, and all categorical industries have significant reporting requirements. Does EPA take the position that a Reg Flex analysis does not have to assess these reporting requirements?

Answer. Industrial laundries subject to the pretreatment standards but not previously designated as significant industrial users by the pretreatment control authority will be subject to the monitoring and reporting requirements for significant industrial users in 40 CFR 403 as a result of promulgation of the pretreatment

standards. These facilities will be required to submit a baseline monitoring report if they have not previously provided that information to the control authority. Likewise, compliance monitoring reports will be required. Although these monitoring, record keeping and reporting requirements are not specified in the proposed pretreatment standards, an estimate of the cost of monitoring is included in the annual operating and maintenance cost associated with this rule. This estimate, which is included in the regulatory flexibility analysis, is based upon an assumption of monthly monitoring for all limited parameters. EPA's estimate of economic impact conservatively assumes that this monitoring would commence within 6 months of promulgation, rather than on the date compliance is required (3 years after promulgation). EPA believes this estimate is sufficient to take into consideration both baseline monitoring requirements and routine compliance monitoring that is likely to be required by the pretreatment control authority.

GULF OF MEXICO: HYPOXIA

Question. In addition to the $4.3 million proposed in your fiscal year 1999 budget for the Gulf of Mexico Program office, what other Federal agencies are spending money on activities related to hypoxia in the Gulf of Mexico? How much are they spending, and on what activities?

Answer. The $4.3 million proposed in the fiscal year 1999 budget is not exclusively for hypoxia-related activities. Nutrient enrichment is one of four major focus areas for the Gulf of Mexico Program (GMP). The GMP is a broad constituency of government and non-government organizations that are working together to: (1) reduce nutrient pollution; (2) restore shellfish growing waters and protect recreational waters; (3) improve and protect important coastal habitat; and (4) prevent the introduction of nonindigenous species in Gulf coastal waters. Hypoxia in the northern Gulf of Mexico is one component of the GMP's efforts to reduce nutrient pollution. The proposed fiscal year 1999 budget for this effort is approximately $300,000.

Other Federal agencies are working with the Environmental Protection Agency (EPA) and the GMP in an effort to address the problems with nutrient over-enrichment in the Mississippi/Atchafalya River System. Nutrient loadings from this river system have been associated with the hypoxia issue in the northern Gulf. The Federal agencies participating in this effort are using funding from existing programs and authorities to address any nutrient enrichment and hypoxia issues that are within their mandate.

EPA, in partnership with the GMP and other Federal agencies, in June 1997 compiled a document entitled "Interagency Hypoxia Response Activity Report" (Attachment 1). This document summarizes each agency's programs which may be applied to nutrient enrichment and hypoxia-related activities, including specific budget information where available. A table entitled "Priority Hypoxia Response Program Activities for fiscal year 1997" is also attached. (Attachment 2)

Question. How much is the Federal government spending to verify the scientific theory that hypoxia in the Gulf of Mexico is directly linked to nutrient runoff from agricultural fields? Is the process open and peer reviewed?

Answer. In 1997, an interagency group of senior Federal representatives formed a Task Force and recommended that an assessment of the scientific knowledge and understanding of hypoxia be conducted. The Task Force, through EPA, asked the White House Office of Science and Technology Policy to conduct a scientific assessment of the causes and consequences of Gulf hypoxia through its Committee on Environment and Natural Resources (CENR). A Scientific Evaluation and Support Committee (SESC) was formed under the leadership of CENR to conduct the hypoxia science assessment. The SESC or "Hypoxia Work Group" is comprised of representatives from the following:

1. Department of Agriculture;
2. Department of Commerce/National Oceanic and Atmospheric Administration (Lead);
3. Department of Defense/Army Corps of Engineers;
4. Department of Defense/Office of Naval Research;
5. Department of Energy;
6. Department of Health and Human Services/National Institute of Environmental Health Services;
7. Department of Interior/Minerals Management Service;
8. Department of Interior/U.S. Geological Survey;
9. Department of State;
10. Environmental Protection Agency;
11. National Aeronautics and Space Administration;
12. National Science Foundation;

13. National Science Foundation Smithsonian Institution.

The Hypoxia Work Group is addressing the issue of what is known about the hypoxia zone along the coast of Louisiana (its causes and effects) and what might be done to address the problem. The effort is addressing all possible sources of nutrients to the Mississippi River and the Gulf. The assessment will provide a series of interrelated reports, examining various aspects of the hypoxia issue. These reports will address the following topics:

1. Characterization of hypoxia: distribution, dynamics, and causes. This report will describe seasonal, interannual, and long-term variation of hypoxia in the northern Gulf of Mexico and its relationship to nutrient loadings.

2. Ecological and economic consequences of this hypoxia. This report will evaluate the ecological and economic consequences of hypoxia, including impacts on Gulf of Mexico fisheries and the regional and national economy.

3. Sources and loads of nutrients transported by the Mississippi River to the Gulf of Mexico. This report will identify the sources of nutrients within the Mississippi/Atchafalya system and within the Gulf of Mexico with two distinct components. The first is to identify where, within the basin, the most significant nutrient additions to the surface water occur. The second, more difficult component, is estimating the relative importance of specific human activities in contributing to these loads.

4. Effects of reducing nutrient loads to surface waters within the basin and the Gulf of Mexico. This report will estimate the effects of nutrient source reductions in the Mississippi/Atchafalya on water quality in these waters and on primary productivity and hypoxia in the Gulf of Mexico.

5. Evaluation of methods to reduce nutrient loads to surface water, ground water, and the Gulf of Mexico. This report will identify and evaluate methods to reduce nutrient loads to surface water, ground water, and the Gulf of Mexico.

6. Evaluation of social and economic costs and benefits of methods (identified in Topic # 5) for reducing nutrient loads.

The assessment of the causes and consequences of Gulf hypoxia is intended to provide scientific information that can be used to evaluate nutrient management strategies, and to identify gaps in our understanding of this problem. NOAA leads this effort which includes teams of academic, Federal, and state scientists from within and outside the Mississippi River watershed. A detailed description of this effort and the process for the assessment, which includes peer review and general comment periods (detailed in Attachment 3), is provided in the Gulf of Mexico Hypoxia Assessment Plan. (Attachment 4)

The amount of funding, source of funding, and recipient for each of the CENR topics is identified in Table 1. An estimate of the in-kind resource commitments from each of the participating agencies is given in Table 2. Five Federal agencies have provided the funding for the assessment which totals about $1.1 million.

While NOAA has been asked to lead this CENR scientific assessment, oversight involves several Federal agencies and the assessment itself is being conducted in an open process by teams that include academic, Federal, and state scientists from within and outside the Mississippi River watershed. The assessment of the causes and consequences of Gulf hypoxia is intended to provide peer-reviewed scientific information that can be used to evaluate nutrient management strategies, and to identify gaps in our understanding of this problem. While the focus of the assessment will be on hypoxia in the Gulf of Mexico, the effects of changes in nutrient concentrations and loads and nutrient ratios on water quality conditions within the Mississippi/Atchafalaya riverine systems will also be addressed. In addition, the Assessment Plan provides several opportunities for public review and comment on the assessment reports.

ATTACHMENT 1

INTERAGENCY HYPOXIA RESPONSE ACTIVITY REPORT

I. INTRODUCTION

The purpose of this report is to provide all stakeholders with a compilation of existing Federal programs which could be or are being used to aid in alleviating hypoxia in the Gulf of Mexico. Over the past several years many agencies in all sectors collected data and began evaluating the conditions of nutrient overenrichment and hypoxia. These efforts focused on understanding the issue and exploring activities which could begin to address and alleviate the potential problem. The current focus is to identify and coordinate implementation activities throughout the Mississippi and Atchafalaya River systems and the Gulf of Mexico. Rather than inventing new

programs, many Federal agencies can re-direct their existing activities to focus on the hypoxia issue, especially for nutrient management.

Background.—In the aquatic environment hypoxia refers to the condition where dissolved oxygen measurements are so low (less than 2 parts per million or PPM) that little, if any, organisms such as fish and shellfish can continue to live and survive. This condition occurs in various locations throughout the world, but one of the largest and most complex areas influenced by human activities, is in the Gulf of Mexico. The size of the hypoxic or low oxygen area varies spatially and seasonally and available information indicates an increase in overall size since the 1960's. After 1993 it doubled in size from about 3,500 to 7,000 square miles. This oxygen-depletion is typically associated with the bottom waters but can extend upward into the water column for as much as 5 to 30 meters. Economically, the short term effects of this condition are not evident since commercial and recreational fishing thrives along the edges of the hypoxic area. However, hypoxia has led to the "death" of large water bodies such as Lake Erie and is a major concern in other United States coastal areas.

Presently available research has shown a relationship between Mississippi River flow, riverborne nutrients, plankton productivity and bottom water hypoxia, although the quantification and understanding of the relationships is complex and components of these relationships need to be strengthened. The major focus for addressing the hypoxia environmental issue is on the Mississippi and Atchafalya River systems because they contribute 90 percent of the freshwater loading to the Gulf of Mexico and drain America's industrial and agricultural heartland. In particular, there is a focus on the importance of nutrient contributions to the Gulf because according to studies done by the United States Geological Survey (USGS), concentrations of nitrates in water discharged to the Gulf have increased by threefold since the 1960's which appears to be related to the increase in the hypoxic area. The major sources of nitrogen contributions, according to USGS estimates, are from commercial fertilizer, animal manure, and legumes. However, there are also contributions from domestic and municipal waste and atmospheric deposition.

II. RESPONSE ACTIVITIES

Representatives from the Federal agencies and the Gulf of Mexico Program Office involved in the interagency effort identified and categorized their current programs which are relevant to addressing the science support (understanding of hypoxia) or stewardship actions (nutrient management). They further subcategorized their efforts, described the overall program, and as appropriate, presented resources expended or available this fiscal year.

A. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Clean Water Act (CWA) 319—Nonpoint Source NIPS) Program

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Nutrient Source Management

DESCRIPTION: At the Federal level the EPA administers a technical assistance/grant program to address nonpoint sources. Under the 319 program, EPA provides grant funding to the States to be used for controlling nutrients and other nonpoint source pollution, usually with the implementation of Best Management Practices (BMP's). Typically, States determine the priorities of projects and EPA provides technical support and review of projects for statutory eligibility. For States in the Mississippi River drainage system, funding is about $65 million per fiscal year. For addressing the hypoxia issue EPA would recommend building upon the current voluntary, incentive driven approaches. Specifically at the Federal level, EPA would encourage States to target 319 funding for improving and broadening the use of nutrient management plans NMP's) and BMP's for livestock, crops, and lawns and gardens. In particular, the wider application of vegetative filter strips as a nonpoint source BMP helps to remove nutrients in wet weather flows from agricultural and urban areas before water runoff reaches the system of creeks and streams flowing into the Mississippi River. These "win-win" nutrient management actions would benefit the landowner in achieving better utilization of nutrients and would reduce the amount of nutrient input the Mississippi River system and Gulf of Mexico. EPA would also share examples from other States/Regions (e.g. Iowa, Florida, Pennsylvania, Chesapeake Bay) where implementation of NMP's are used to reduce fertilizer use and save farmers money. These examples could be used for voluntary efforts within the States. There is typically a high degree of coordination with USDA and the Conservation Districts in this program. Since 1990 a total of $470 million in UPS grants have been awarded under Section 319.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Nutrient Source Management

DESCRIPTION: Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) required that States with federally approved coastal zone management programs (currently 29 States) develop Coastal Nonpoint Pollution Control Programs to be approved jointly by EPA and NOAA. Coastal Nonpoint Programs have been submitted by all 29 States (includes all Gulf of Mexico States except Texas) and are at various stages in the approval process. The purpose of the program is to achieve implementation of specified management measures for nonpoint sources within coastal watersheds by more fully integrating federal, state and local authorities. Coastal Nonpoint Programs build upon state and local authorities and expertise. Initially a technology-based approach is used followed by a water quality-based approach, where necessary to address known water quality problems and protect threatened waters. These state programs must include state and locally developed management measures which are in conformity with EPA's technical guidance. States have some flexibility to adapt the management measures where local climatic or hydrological conditions can be demonstrated to require it. NOAA and EPA have worked collaboratively with the States to help them develop approvable programs that both reflect local conditions and meet the goals of CZARA. In particular, all Coastal Nonpoint Programs include management measures to address nutrient management for agricultural, forestry, urban and marina activities. While very limited Federal resources specifically for implementation of approved Coastal Nonpoint Programs have been appropriated to date, actions identified in Section 6217 Programs are eligible for funding under Section 319 of the Clean Water Act (see separate entry) at the state's discretion. This is a win-win response in the sense that the coastal States would lead by example, demonstrating to upstream localities the successes of commitments to action to reduce nutrient discharges.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: National Pollutant Discharge Elimination System (NPDES)

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Nutrient Source Management

DESCRIPTION: Point source discharges are regulated under the National Pollutant Discharge Elimination System (NPDES) permits program. Nationally, EPA has direct review and enforcement authority over NPDES permits and administers the program directly unless individual States are authorized to run the program. Two levels of decisions govern the requirements of these permits. The first, requires the imposition of a standard level of treatment based on prescribed technologies that implement Best Conventional Pollutant Control Technology (BCT) or the Best Available Technology Economically Achievable (BAT) for industries, and secondary treatment for municipalities. These controls are largely in place for :municipalities and manufacturing operations, although many confined animal feeding operations have not been permitted. The second level of decision occurs when monitoring or modeling shows that water quality standards are not being met.

Four types of point sources under the permit program are relevant to nutrient management. These are (1) Municipal sewage treatment or Publicly Owned Treatment Works (POTW's); (2) Stormwater runoff; (3) Industrial manufacturing facilities; and (4) Confined animal feedlots.

Municipal Sewage Treatment.—Municipalities treat domestic and pretreated industrial wastewaters prior to discharge. With secondary treatment (the equivalent of BCT), municipalities reduce nitrogen loadings by an average of 30 percent. For the States within the Mississippi river system and Gulf of Mexico coastal marine environment, there are 12,394 sewage treatment plants with secondary treatment. EPA provides funding in States Revolving Funds (SRF's) which are state run funds that provide low cost loans to municipalities for infrastructure for sewage treatment plants and other pollution control projects (see entry on SRF's). Improved treatment, such as nitrification and denitrification, to solve local problems and benefit local jurisdictions could eventually have impacts on the nitrogen loadings to the Mississippi river system. However, such treatment is costly. For this fiscal year, EPA will begin to track loadings from municipal facilities based on information in the Permits Compliance System (PCS) database.

Stormwater Runoff.—For stormwater runoff the EPA program requires an NPDES permit for stormwater systems of urban areas with a population of over 100,000 and also for some industrial activities (for Phase I; Phase II will impact smaller sites). Most nutrients in stormwater originate from municipal systems. Nutrients in runoff from storm water are controlled by requirements from EPA for

large municipalities, by State requirements, or by county or local ordinances and programs. In the Mississippi river system and Gulf coast there are 42 NPDES permits for stormwater covering 72 municipal systems. These permits differ from other NPDES permits in that they require that the permitees develop and carry out storm water management plans based on best management practices instead of requiring enforceable numeric water quality limits. Some funding has been provided by EPA through a competitive grant program for communities that are not required to have a permit. Local fees can be used to generate revenues for stormwater containment. Municipalities would have a win-win response if they implement BMP's for stormwater because they would be preventing serious threats to their drinking water supplies and water quality while at the same time reducing the amounts of nutrients and other pollutants from discharging into the Mississippi system.

Industrial Discharges.—Discharges from industrial processes, such as fertilizer manufacturers, are covered by NPDES permits based on national treatment requirements (BAT and BCT), and on water quality standards. Nationwide there are 6,600 or more large operators of which about 1,500 are in the NPDES permit compliance system. In States located in the Mississippi River system and Gulf of Mexico States there are 3,877 industrial permits for primarily major sources which control the discharge of nutrients. For this fiscal year, EPA will begin to track loadings from industrial facilities based on information in the Permits Compliance System (PCS) database. Industrial dischargers are discussed further in the "science/research" category.

Confined Animal Feeding.—Certain feedlot operations are considered point sources and are covered by NPDES permits. In the Mississippi River system and Gulf of Mexico States there are 3,209 feedlot operations subject to NPDES permitting. For this fiscal year, EPA will focus on reducing loadings from confined animal feedlot operations (CAFO's) through a joint effort between the Office of Water and the Office of Enforcement and Compliance by evaluating facility compliance and targeting additional animal feeding operation that could have a significant impact on water quality for permit coverage. NPDES feedlot discharges and operations not covered by NPDES (also see NPS program description) are discussed further in the "science/research" category.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: National Pollutant Discharge Elimination System (NPDES)

RESPONSE CATEGORY/SUBCATEGORY: Science/Research on Hypoxia/Loading Characterization

DESCRIPTION: In order to understand the effects nutrients are having on the hypoxic zone in the Gulf of Mexico, we need to quantify nutrient loadings by having accurate estimates of the amounts being discharged into the Gulf from the Mississippi River drainage system. This information will also provide more accurate data for predictive models used to study the effects of nutrients on the hypoxic area. Data exists to better quantify the loadings from point sources. In particular, EPA's permit compliance system (PCS) could be used, with enhancements, to quantify loadings from point source dischargers (i.e. industrial sources and permitted animal feeding operations).

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: State Revolving Fund (SRF) Program—CWA Title VI

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Nutrient Point Source Management/Estuary Management

DESCRIPTION: The State Revolving Fund (SRF) program was created in the 1987 Amendments to the CWA to establish permanent and independent sources of financing for water quality infrastructure projects in each of the 50 States and Puerto Rico. EPA and the States provide capitalization funds or "seed money" to establish these loan funds. States are responsible for managing these funds over the long-term so that they remain viable sources of funding for the foreseeable future.

SRF's provide below market financing (0.0 percent to below market) for a wide variety of projects to address water quality problems. SRF's can finance virtually any project included in a state's approved nonpoint source management plan or estuary management plan, including agricultural BMP's, manure storage facilities, stormwater management projects, as well as nutrient removal from municipal sewage treatment systems. As of June 30, 1995, the States in the Mississippi River system had SRF's with assets totaling more than $9.2 billion which are available to make loans for priority water quality projects.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: National Wetlands Program

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in Natural Environment

DESCRIPTION: The creation or restoration of wetlands in areas where nutrient loadings are high would help to "filter" nutrient discharges while at the same time preserve the complex ecological wetland habitat along the river corridors of the Mississippi River system. By working to protect and restore wetlands through regulatory and non-regulatory mechanisms, EPA helps to limit and reduce the nutrient loading to the Mississippi tributary system, and ultimately to the Gulf. The creation of new marshland within the coastal area would provide additional vegetative filters that would reduce nutrient loadings to the Gulf. EPA is one of the Federal agencies with responsibilities under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) which provides funding for wetlands projects mostly to coastal Louisiana.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: National Wetlands/Ecosystem Restoration Program

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Research on Restoration Techniques

DESCRIPTION: EPA's wetlands research program includes the investigation of wetland restoration and creation of wetland methods and how to improve their functional performance. Nutrient assimilation and transformation are included among the wetland functions that are studied. The program also includes research into other water quality improvement functions of wetlands, and into landscape level wetland processes, which can help establish priorities for protection/restoration of wetlands to meet environmental objectives, including nutrient removal. EPA is developing an Ecosystem Research Plan, which could provide additional research results of use in addressing the hypoxia problem. EPA is also part of the interagency Task Force evaluating alternative ways to respond to the erosion of coastal Louisiana wetlands, which will have implications for sediment and nutrient patterns in the Gulf.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Water Quality Standards and Criteria

RESPONSE CATEGORY/SUBCATEGORY: Science/Research

DESCRIPTION: States usually have standards and criteria for ammonia-nitrogen, but not for other forms of nitrogen such as nitrate, nitrite, and total nitrogen. Also, ammonia and phosphorus standards and criteria are based on toxicity rather than eutrophication concerns. These gaps result in the lack of comprehensive limits for point sources discharging nutrient loadings to the Mississippi and Atchafalya rivers and Gulf system. EPA can assist States in development of their water quality standards based on available information. However, the need exists to evaluate and develop site-specific guidance for criteria. As a result of a National Nutrient Assessment Workshop, EPA is evaluating the following recommendations: setting nutrient standards on an ecoregional or watershed basis; involving organizations, States and societies in development of a national nutrient overenrichment assessment strategy; recognizing cultural eutrophication as a public health threat; considering land use as a separate early warning indicator, providing simple software models for decision making; investigating models for rivers, streams, estuaries, and wetlands; and using "reference sites" to develop baseline data. In another effort EPA is developing a dissolved oxygen criterion for the protection of marine and estuarine animals in the Virginian Province (i.e., Cape Cod to Cape Hatteras). The scientific analysis and overall approach for the development of this criterion will help in the development and evaluation of low dissolved oxygen criteria and standards in other coastal waters as well, including the Gulf of Mexico.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Geographic Initiatives: Designated Watersheds

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Geographic Demonstrations/Technical Assistance

DESCRIPTION: Specific geographic areas can be targeted for the purpose of characterizing nutrient loadings, answering science questions on hypoxia, and for applying and "ground-truthing" any techniques or models developed. EPA regional offices work directly with States and watershed groups. Proposed targeted watersheds for each region within the Mississippi River/Gulf of Mexico system are: (1) Region 4—Yazoo River; (2) Region 5—Illinois River; (3) Region 6—Tensas River; and (4) Region 7—Iowa River. If selected, EPA and other Federal agencies can focus their many science/research efforts within these watersheds. EPA will encourage the use of grants and FTE's, including travel funding, for the purpose of providing technical assistance within these watersheds. Applied science/research activities in other watersheds which can also support nutrient management and hypoxia issues will be considered as part of this response. This would be a win-win response because communities within the watersheds would benefit from addressing their specific water

quality problems while at the same time contribute to the understanding and reduction of hypoxia in the Gulf of Mexico.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: CWA 303(d)—Total Maximum Daily Loads (TMDL's)

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Loadings Characterization

DESCRIPTION: Clean Water Act (CWA) Section 303(d) establishes the TMDL process to provide for more stringent water quality-based controls when technology-based controls are inadequate to achieve State Water quality standards. When information shows that water quality standards will not be maintained with required controls (e.g. CWA Section 302) States must develop a TMDL for the affected waters. The TMDL prescribes the allowable loadings of pollutants from significant sources (both point and nonpoint) which will maintain water quality standards. For the Mississippi River system, EPA will evaluate and use the appropriate TMDL tools to assist with development of TMDL's for nutrients in water quality impaired areas. This response will complement other responses to characterize nutrient loadings to the Gulf of Mexico.

AGENCY.: United States Environmental Protection Agency (EPA)

PROGRAM: Clean Air Act Amendment 1992, Section 112m section 105

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Loadings Characterization/Air Deposition

DESCRIPTION: The Great Water Bodies Air Deposition program (or the Coastal Waters Air Deposition program) was established by Congress to investigate the levels and impacts of air deposition, especially on coastal States experiencing deposition from distant sources. This includes the Great Lakes, the east coast, and the Gulf of Mexico States. To date, investigations have centered in the Great Lakes and Chesapeake Bay Regions, and recently, some work was funded in Tampa Bay and Galveston Bay. This year, OAR also provided some funds under Section 105 to expand the investigations in estuaries such as Casco Bay and Galveston Bay.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Water Air/Water Initiative

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Nutrient Source Management

DESCRIPTION: This year, Assistant Administrator for Water, Bob Perciasepe, in cooperation with the Assistant Administrator for Air and Radiation, Mary Nichols, established a special effort in the Office of Water to step up collaboration between the two offices. The initial foci of this special program includes the impact of nitrogen and mercury deposition to the waters of downwind States. Mr. Perciasepe directed his senior staff to prepare and implement an aggressive strategic plan to address these impacts. Among the first actions in the work plan for this program is an assessment of deposition "hot spots" on the East and Gulf Coasts. To lead this program, a senior staff person, Doris Price, was detailed to the Office of Water from the Acid Rain Division, OAR.

Mr. Perciasepe was prompted to take this action after participating with Mary Nichols in two public workshops which focused on the shared water and air resources. The action coincides with considerations by the Ozone Transport Commission to increase controls on nitrogen emissions during summer months, and with the Federal Energy Regulatory Commission's issued "Open Access Rule." The latter permits consumers to purchase electric power from the cheapest source, which means that some coal-fired boilers will increase output while others could reduce output. This could produce dramatic changes in the levels of deposition to watersheds in "downwind" States.

AGENCY:United States Environmental Protection Agency (EPA)

PROGRAM:Office of Research and Development/National Health and Ecological Effects Laboratory (NHEERL)/Gulf Breeze, Fl

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Understanding Hypoxia/Other

DESCRIPTION: The Gulf Ecology Division of ORD's National Health and Ecological Effects Laboratory (NHEERL) proposes to investigate the mechanisms by which nutrient enrichment alters coastal ecosystems. The program is a 5–10 year effort focusing on the delineation of the process of coastal eutrophication in the Gulf of Mexico estuaries using field experiments and concomitant laboratory experiments as well as focusing on specific instances of coastal eutrophication in South Florida and the Louisiana Delta. Much of the process-level or mechanistic investigation is proposed for Pensacola and Perdido Bays, FL.

The hypoxic zone of the Louisiana Shelf, previously described by Rabalais and associates, will form the primary area for a number of field investigations: (1) Riverine nutrient input and sediment carbon and nutrient concentrations will be compared

using cruise transects through the Atchafalaya and Mississippi River plumes to determine differences in biogeochemical cycles in waters that are transported through marshes and open systems, respectively; (2) The storage capacity of shelf sediments for carbon and nutrients will be examined to determine its potential to fuel future hypoxic events; (3) Measures of the hypoxic zone bacterial oxygen demand, oxygen consumption and carbon dioxide production will be made, focusing on the comparative chemical, biological and photic consumption of oxygen; (4) Experiments conducted in the Atchafalaya and Mississippi River plumes and in the hypoxic region will be designed to develop further information on the factors that cause hypoxia along the Louisiana shelf; and (5) Automated field collections of dissolved oxygen concentrations and attendant water quality parameters will be conducted to determine the three-dimensional boundaries of the hypoxic and anoxic regions of the shelf and the Atchafalaya corridor to ascertain changes in habitat availability for benthic and pelagic communities. Related laboratory experiments will be conducted to assess the impacts of realistic hypoxic regimes on target estuarine organisms and the minimum dissolved oxygen requirements of aquatic organisms. Also, a nutrient loading model will be developed to relate eutrophication to biological effects, harmful algal blooms, etc. Resources available on an annual basis for supporting these research activities include 7 full-time scientists/technicians and approximately $60,000 in support costs.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Research and Development, National Exposure Research Laboratory, Characterization Research Division/Las Vegas NV/Landscape Characterization Project

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Other (Landscape Characterization)

DESCRIPTION: This project entails a national scale landscape characterization of approximately 2,108 watersheds (USGS 8-digit hydrologic accounting units or HUC's) using 10 indicators of landscape conditions generated from coarse-scale, nationally-consistent spatial data. When completed the Mississippi Basin portion should be relevant to Basin-wide assessment and restoration efforts potentially impacting the hypoxia zone. A major demonstration of this technology at a regional scale is being conducted in the Mid Atlantic in concert with EPA Region III.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Research and Development, National Center for Environmental Assessment

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Assessment

DESCRIPTION: NCEA will assist the Gulf of Mexico Program Office (GMPO) in focusing their strategic assessment activities for the hypoxia issue. This will be accomplished by developing a risk-based framework with emphasis on the initial planning and problem formulation stages of ecological risk assessment. The process will include identifying management goals, developing assessment endpoints, and preparing a conceptual model that links stressor sources and pathways with effects on ecologically, economically, and/or recreationally important resources in the Gulf. Results will provide input to the efforts by other organizations (e.g., the Committee on Environment and Natural Resources) that are also addressing the Gulf hypoxia issue.

B. GULF OF MEXICO PROGRAM

AGENCY/PROGRAM: Gulf of Mexico Program Office

RESPONSE CATEGORY/SUBCATEGORY: Watershed Management/Community Based Environmental Protection (CBEP)

DESCRIPTION: The Program will support voluntary State and local community efforts in specific special emphasis watersheds in the Gulf States of Louisiana and Mississippi, focusing on nutrient reductions. Through pollution prevention practices, the rate, timing, and method of application of nutrients can minimize their potential losses through runoff or leaching to groundwater. Nitrogen is important for crop production, but, if not managed properly, can easily move from farmland to ground and surface waters. The Program will work with the States to support efforts such as innovative land practices, instream habitat alterations, and tracking of key environmental indicators to measure progress. The Program encourages incentive-based, prevention approaches that make economic sense and contribute to the ecological and human health of the Mississippi River Basin and the Gulf of Mexico.

AGENCY/PROGRAM: Gulf of Mexico Program Office

RESPONSE CATEGORY/SUBCATEGORY: Monitoring

DESCRIPTION: The program will support the continued monitoring of the spatial and temporal extent of the hypoxic zone and the monitoring of major tributaries for

nitrate levels. We will also support monitoring in Gulf state watersheds with nutrient reduction issues in the States on the Gulf coast to generate water quality data to identify the sources and quantify the amounts of nitrate generated in the watershed. This monitoring would establish the effectiveness of various BMP's for nitrogen removal.

AGENCY/PROGRAM: Gulf of Mexico Program Office

RESPONSE CATEGORY/SUBCATEGORY: Education and Outreach

DESCRIPTION: The Program will support an educational outreach initiative providing a public education link to the public and private sectors on hypoxia initiatives and concerns and will implement agricultural outreach programs. The Program will provide information to urban areas throughout the Mississippi River Watershed on successful approaches to urban runoff and encourage efficient use of fertilizers among homeowners and businesses through the development of educational programs on proper handling of residential nutrient sources.

AGENCY/PROGRAM: Gulf of Mexico Program Office

RESPONSE CATEGORY/SUBCATEGORY: Modeling

DESCRIPTION: The Program will explore innovative partnerships in the area of data collection for model calibration. GMPO will work with EPA, NOAA, USGS and others to quantify atmospheric sources and link air and water fate and transport models.

AGENCY/PROGRAM: Gulf of Mexico Program Office

RESPONSE CATEGORY/SUBCATEGORY: Research

DESCRIPTION: The Program will support innovative approaches (e.g., technology demonstrations for precision farming and sustainable agricultural practices) to reduce the contribution and effects of nutrients in the Mississippi River/Gulf ecosystem.

The Program will encourage efforts to determine the extent and severity of fisheries impacts in the Gulf of Mexico and the development of biological indicators.

The Program will support the assessment of the relative importance of atmospheric deposition to nitrogen loading within the Mississippi River Basin, as well and the relative significance of industrial, POTW, and stormwater point source loadings of nitrogen to the system.

C. DEPARTMENT OF THE INTERIOR

1. Fish and Wildlife Service

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: North American Waterfowl Management Plan

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

The North American Waterfowl Management Plan is an excellent example of cooperation among a variety of private citizens, citizen organizations, private enterprise and governmental units at the local, state and rational level (including the U.S., Canada, and Mexico) for the mutual benefit of all. There are 14 partnerships called Joint Ventures which are responsible for on the ground implementation of the plan. Because of the very nature of its activities and the inextricable link between waterfowl and water quality, nearly all projects within the purview of the North American Plan have a collateral water quality benefit. The total nutrient reduction in the Mississippi basin as a result of this program is impossible to quantify. The North American Plan, however, calls for the protection and the restoration or enhancement of millions of acres of wetland and associated upland; 11 of the 14 Joint Venture areas are in part or in whole within the Mississippi basin. The amount of nutrient removal associated with any individual tract depends upon a number of variables such as the watershed on which it is located, its precise location in the watershed, nutrient sources upstream, etc.

In addition to the direct effects on the nutrients within a watershed, the North American achieves significant educational benefits which will ultimately result in better nutrient utilization within the basin. One of the most important educational benefits deals with the process of collaborating to achieve mutually desired goals in a non-regulatory environment.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: National Wildlife Refuge System

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

Within the Mississippi basin the National Wildlife Refuge System consists of about 4.6 million acres, or about 0.5 percent of the basin. The Service regularly adds to the Refuge System on a willing seller basis as opportunity, money, and Congressional authorization make it feasible. Part of the planning process for Refuge Sys-

tem acquisition includes evaluation of wetland values. After lands are added to the system, as a portion of achieving one of the primary objectives of improving habitat values for trust resources, it is normal procedure to restore wetlands and other habitat, and to subsequently manage them in a manner which also results in water quality improvement. In those instances where either the Service or lessees use fertilizers, herbicides and/or pesticides the Service has a program in place to reduce usage both in quantity and toxicity. Total nutrient reduction in the Mississippi basin is dependent upon a multitude of variables and is impossible to quantify.

The National Wildlife Refuge System represents a true win-win situation. The citizens/sportsmen who pay for the property obtain additional public lands and the benefits that go with that land; the willing seller is able to, but not required to, sell property at appraised value; land, which is often of marginal agricultural value, is removed from production and returned to wetlands, hardwoods, prairie, etc., all of which helps improve downstream water quality.

The National Wildlife Refuge System also has a technical assistance/education component wherein refuge personnel assist in educating the public through various programs such as the visitor's centers, classroom assistance, various local organizations, etc. on the values of wetlands and water quality. Refuge personnel often also provide technical assistance to non-refuge organizations and individuals on how to restore wetlands, improve habitat, and improve water quality.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Endangered Species Program

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

The Endangered Species program contributes to improved water quality in the Mississippi basin in several manners. By means of Section 7 consultations the Service has an opportunity to influence the manner in which projects are developed. Often the staff works with developers in a preconsultation mode which results in a more environmentally friendly project without ever needing to enter into formal consultation. Such influence, by its very nature, tends to protect wetlands and riparian habitat with a collateral benefit of reduced nutrient loading and improved water quality.

Habitat Conservation Plans (HCP's) encourage developers to engage in a comprehensive planning process which takes into account not only their development objectives, but also habitat requirements for one or more species. As a result of this process, the developer is assured that the project can proceed without danger of being stopped for endangered species as long as the plan is followed. From a resource perspective, the Service is assured that appropriate habitat will be protected. Again a collateral benefit is reduced nutrient loading and improve water quality.

The Service is conducting educational programs on many fronts concerning endangered species and the need for appropriate habitat. Audiences vary from school children, to the agricultural community, to special interest groups, to government officials, to developers. Some of the payoff for the educational programs is immediate as in the case of farmers or developers who alter their approach, and some will not be realized until the next century as in the case of younger school children.

As in many of the Service programs, it is impossible to quantify the amount of nitrogen and phosphorus which is precluded from entering the Mississippi drainage as a result of this program.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Partners for Wildlife

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, and Education

The FWS operates its Partners for Wildlife program, wherein Service personnel provide technical and financial assistance to individual property owners to restore previously degraded wetlands, riparian areas, and other habitats under voluntary cooperative agreements. The Service works in close coordination with other federal and state agencies, local governments, conservation organizations and business and industry to enhance delivery of the program. The cooperating property owners agree to retain the restored habitats for a minimum of 10 years under cooperative agreements with the Service.

Since the program began operation in 1987 the Service has restored over 350,000 acres of wetland habitat nationwide. Of this total, approximately 40 percent (140,000) has taken place in the upper Mississippi watershed, and approximately 25 percent (90,000 acres) in the lower Mississippi River Basin. Total nutrient reduction as a result of this program is impossible to quantify.

Currently, annual funding for the Partners for Wildlife restoration program is currently approximately $10 million nationwide. Cumulatively, (since 1987) Service funding for projects conducted in the upper and lower Mississippi watersheds is ap-

proximately $40 million and $25 million, respectively. These dollars have leveraged nearly an equal amount from landowner contributions and in-kind services, as well as from other funding partner sources, for a total investment of approximately $130 million in the Mississippi River Basin.

This is an excellent example of a win-win cooperative program. The Service achieves its primary objective of improving habitat for trust resources while landowners improve the aesthetic, economic, and recreational value of their land. Downstream property owners also benefit by reduced flooding and improved water quality. The amount of nutrient reduction achieved by a given project is dependent upon a variety of factors, including where it is located in the watershed and surrounding land use activity. Property owners frequently indicate a desire to retain restored habitats long after expiration of Partners For Wildlife cooperative agreements.

The program also provides opportunities for community involvement through education and research initiatives. Restoration projects often become the focal point for educational field trips and research studies. Engaging the local community also encourages surrounding landowners to become involved in additional habitat restoration and overall natural resources stewardship on the landscape.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Federal Aid Programs

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

The Federal Aid in Sport Fish Restoration Act and Federal Aid in Wildlife Restoration Act provide major sources of funding for basin States for use in their fish and wildlife programs. In 1996 the States making up the Mississippi basin received a combined total of about $108.8 million in Federal Aid in Wildlife Restoration (not including the funding specifically targeted toward hunter education), and about $117.3 million in Federal Aid in Sport Fish Restoration. Portions of this money went toward purchase of real estate for fish and wildlife habitat. Other portions went toward restoration/improvement of habitat. In most instances the habitat acquired or restored provides a water quality benefit by virtue of its nutrient removal capabilities. In addition a component of the Federal Aid moneys goes to support education, which has a long term positive effect.

These revenues, which are generated by taxes on many types of hunting and fishing equipment and supplies, were instituted at the request of sportsmen. The activities funded from these funds represent win-win situations in which all of society benefits. Because of the nature of these programs it is impossible to quantify nutrient reductions in the Mississippi drainage which is directly attributable to them. As with many of the natural resources programs, improved water quality is a collateral benefit.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: North American Waterfowl Management Plan

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

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In addition to the direct effects on the nutrients within a watershed, the North American achieves significant educational benefits which will ultimately result in better nutrient utilization within the basin. One of the most important educational benefits deals with the process of collaborating to achieve mutually desired goals in a non-regulatory environment.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Contaminants Activities

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, Education

The Fish and Wildlife Service, working through its Division of Environmental Contaminants and through contaminants specialists in field offices throughout the basin, conducts various activities designed to improve management of trust resources (property and species). These activities may deal with contaminants originating on Service property, contaminants threatening to enter or impact Service property, contaminants on property the Service may be interested in acquiring or contaminants with a potential to threaten trust resources off site.

The Service was instrumental in developing the Biomonitoring of Environmental Status and Trends (BEST) program. This program provides a standardized and systematic approach for identifying existing and potential contaminants problems on lands managed by the Department of the Interior and thereby provides a basis for remediation or for future assessments. This program is currently managed by the National Biological Service.

The Service is a co-trustee with the States for natural resources in the Natural Resource Damage Assessment (NRDA) program. Under this program, money is assessed from responsible parties for damages to the natural resources, and is spent to restore habitat in the immediate vicinity of the damage. This restored habitat, which is often wetland, helps reduce nutrient loadings to the Mississippi. Each of the dozens of National Priorities List (NPL) sites in the basin is a potential source of restoration funds.

Some service contaminants activities contribute to a better understanding of watercourse and wetland values and functions including the transport and fate of nutrients. The Service has no monitoring program for water quality parameters such as nutrients and pesticides which are associated with the Gulf hypoxia issue.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Coordination Activities

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, and Education

The Fish and Wildlife Service, in accordance with the Fish and Wildlife Coordination Act, and various portions of other federal statutes such as the Clean Water Act, the Resource Conservation and Recovery Act, the Federal Agriculture Improvement and Reform Act (Farm Bill), Federal Power Act, etc. serves as a consultant to various other federal agencies concerning activities which might have the potential to impact trust resources. In this role, Service personnel use their technical expertise in fish, wildlife, and habitat management issues to help other agencies avoid conflicts. The Service makes recommendations aimed to help the other agencies first avoid, secondly minimize, and thirdly mitigate for adverse impact to fish and wildlife resources.

It is not possible to quantify the impacts of the consultant/advisor role on the hypoxia problem. Sometimes, as a result of early discussions, an agency might make significant changes which result in improved water quality before the original plan is ever committed to paper. In such a case the damage which has been avoided is never documented. Also as a result of this process of interagency dialog, the developmental approaches of the cooperating agencies evolve to a more environmentally benign project.

AGENCY: U.S. Fish and Wildlife Service (FWS)

PROGRAM: Contaminants Activities

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Assimilate in the Natural Environment, Managing River Resources, Education

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PROGRAM: Coordination Activities

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2. United States Geological Survey

AGENCY: United States Geological Survey (USGS)

PROGRAM: National Water Quality Assessment Program (NAWQA)

RESPONSE CATEGORY: Science/Research

SUBCATEGORY: Loadings characterization; Understanding nutrient transport mechanisms

DESCRIPTION: In 1991 the USGS began full implementation of the National Water Quality Assessment Program (NAWQA). Objectives of the program are to: (1) describe the status and trends in the quality of a large, representative part of the Nation's ground- and surface-water resources, (2) to provide an improved understanding of the primary natural and human factors affecting these resources, and (3) to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other Federal, State, and local agencies. These objectives are being carried out through intensive 3-year studies in 60 study units in diverse hydrologic settings nationwide. The 60 study units selected for study in this program include more than two-thirds of the Nation's fresh water resources and more than two-thirds of the people served by public supply systems. About 20 of the NAWQA units are intensively studied for a period of 3 years, and then the program rotates to studies of the next set of 20 study units. This approach provides for intensive study of the 60 study units over a period of about 10 years. Twenty three (23) of the 60 NAWQA study units lie within the Mississippi River basin, and 7 of these units are presently (1996–97) in the intensive study phase. Four of the active study units in the basin will provide data on nutrient sources and nutrient loading in relation to land use, that will be of particular value to study of the hypoxia issue. These active study units are: (1) the upper Mississippi basin, including Minneapolis-St. Paul, (2) the Cedar and Iowa River basins in eastern Iowa, (3) the lower Illinois River basin, and (4) the Mississippi embayment in Mississippi, Arkansas, and Northern Louisiana.

The similar design of each investigation and use of standard methods make comparisons among the study units' results possible. Regional and national assessments, referred to as " National Synthesis", have been made, which focus on priority national issues, including nutrients and pesticides.

AGENCY: United States Geological Survey (USGS)

PROGRAM: National Water Quality Assessment Program (NAWQA)

RESPONSE CATEGORY: Science/Research

SUBCATEGORY: Point and Nonpoint Sources

DESCRIPTION: The research is focused on developing national and regional water-quality models relating stream measurements of nutrients to point- and nonpoint-pollutant sources and watershed characteristics. The models are designed to empirically estimate the rates of nutrient loss from terrestrial and in-stream

processes, and thus, quantify the transport of point and nonpoint sources to downstream locations. Preliminary versions of these models have been applied in the Mississippi River Basin (see Gulf of Mexico Hypoxia conference proceedings, 1996) to estimate the quantities of nitrogen and phosphorus delivered to the Gulf of Mexico from interior watersheds. Refinements to the models are currently being made to improve estimates of the terrestrial- and in-stream-loss processes and to quantify the uncertainty associated with estimates of the origin of nutrients delivered to the Gulf.

AGENCY: United States Geological Survey (USGS)

PROGRAM: National Stream Quality Accounting Network II (NASQAN II)

RESPONSE CATEGORY: Science/Research

SUBCATEGORY: Loadings characterization; Understanding nutrient transport mechanisms

DESCRIPTION: The USGS National Stream Quality Accounting Network (NASQAN II) was redesigned in fiscal year 1996 to focus on the flux of chemicals and sediment in the Nation's four largest river basins. By drainage area these are: the Mississippi, Columbia, Colorado, and Rio Grande. In fiscal year 1997 the Mississippi Basin will have NASQAN II sampling sites at 17 key locations in the basin. The configuration of the sampling sites and the sampling strategy will provide estimates of the seasonal and annual flux (loadings) of nutrients, carbon, pesticides, sediment, and other chemicals from 17 discrete subbasins within the Mississippi-Ohio-Missouri River system. The program will also provide estimates of the seasonal and annual flux of nutrients and other chemicals to the Gulf of Mexico via the Mississippi and the Atchafalaya Rivers. The 17 subbasins will provide information on source areas for the nutrients and other materials discharged to the Gulf of Mexico and unit are yields of chemicals and sediment among the subbasins. The data from this program will help identify the geographic areas that contribute the largest unit area loadings of nutrients to the Gulf and will help quantify the success of any fixture efforts to reduce nutrients loadings to the Gulf. The nutrient loading data will also be critical in linking the onset and extent of hypoxia in the Gulf of Mexico to terrestrial nutrient sources via predictive models.

AGENCY: United States Geological Survey (USGS)

PROGRAM: Coastal and Marine Geology Program

RESPONSE CATEGORY: Science/Research

SUBCATEGORY: Predictive Models, Loadings Characterization

DESCRIPTION: Scientific studies conducted through the Coastal and Marine Geology Program of the U.S. Geological Survey in the Mississippi River deltaic plain of south central Louisiana are providing important base-line information on a wide range of environmental conditions and processes. The primary focus of the studies, conducted in collaboration with several federal, state, and local agencies over the past decade, is on barrier island erosion, wetland loss, and contaminated sediments in the Pontchartrain basin. Many of the results from these studies in the form of maps, GIS data bases, scientific reports, and computer models of nearshore water circulation and sediment transport can be important too in improving our scientific understanding of the issues associated with seasonal hypoxia conditions in nearshore waters of the Gulf of Mexico.

D. DEPARTMENT OF DEFENSE

1. United States Army Corps of Engineers

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Upper Mississippi River System Environmental Management Program UMRS–EMP)

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing River Resources (Habitat Restoration)

DESCRIPTION: Section 1103 of the Water Resources Development Act (WRDA) of 1986 (PA. 99–662), as amended, authorized a program for the planning, construction and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement, with up to $19.4 million per year for 15 years to be appropriated. Two key components of the UMRS–EMP are the Habitat Rehabilitation and Enhancement Projects (HREP) and the Long-Term Resource Monitoring Program (LTRMP). Completed HREP's have restored and enhanced wetland and aquatic habitats previously lost and degraded. Sediment control is a primary consideration of HREP projects. More than 14,000 acres have benefitted from these projects.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Mississippi River Diversion Projects

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing River Resources (Habitat Restoration)

DESCRIPTION: Two Corps projects have been designed for large-scale diversion of Mississippi River water, with its sediment and nutrient loads, into existing or former wetlands in coastal Louisiana. One project, Caernarvon Diversion, is complete and operational and the results have been favorable. Another project, Davis Pond, is ready for construction. These projects are designed so that substantial nutrient uptake will occur in wetlands adjacent to the Mississippi River before the water moves on to the Gulf of Mexico. Primary benefits include increased fishery production and conservation/restoration of wetlands that would otherwise be lost to saltwater intrusion and subsidence.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), Title III of Public Law 101–646 (Non-Indigenous Aquatic Nuisance and Control Act of 1990)

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing Coastal Resources (Louisiana Area)

DESCRIPTION: Public Law 101–646 established an interagency Task Force, chaired by the Secretary of the Army, to create, restore, protect, and enhance coastal wetlands in Louisiana, using a number of means to accomplish these goals. The program is funded by the Coastal Wetlands Restoration Trust Fund. The Corps has received about $35 million per year from the Department of the Interior to carry out this program. The restoration and creation of wetlands in coastal Louisiana will help remove nutrients from nutrient-rich waters before they enter the Gulf of Mexico.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Yazoo Basin, Mississippi, Demonstration Erosion Control Program (DECP)

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing River Resources (Other-Reducing Streambank Erosion)

DESCRIPTION: The DECP has been ongoing for several years in the Yazoo River Basin, Mississippi. This program is designed to demonstrate the effectiveness of a watershed or systems approach to reduce erosion and sedimentation associated with flood damage reduction measures. The project includes a variety of measures that detain flood waters and sediment, thereby improving water quality and reducing the nutrient loads to streams.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Section 1135, Water Resources Development Act of 1986, as amended, Public Law 99–662

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing River Resources (Habitat Restoration) and Managing Coastal Resources

DESCRIPTION: Section 1135 of Public Law 99–662, as amended, authorizes the Corps to carry out a program to make modifications to the structures and operations of constructed Corps projects which would improve the quality of the environment. Many of these Section 1135 projects have been restoration of wetlands and other aquatic habitats that trap sediments and nutrients. While this is a national program, a number of the projects have been carried out in the Mississippi River Basin and other drainage that impact upon the Gulf of Mexico. One project has been completed at Calcasieu River and Pass, Louisiana; the Mississippi River Outlets, Venice, Louisiana, project has been approved for implementation; and the South Pass, Mississippi River, project is currently under planning and design work. Section 1135 projects are typically small projects, usually less than $1 million each. Nationwide, this program is funded at about $10 million per year.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Section 204, Water Resources Development Act of 1992, Public Law 102–580

RESPONSE CATEGORY/SUBCATEGORY: Nutrient Management/Managing Coastal Resources (Other—Beneficial Use of Dredged Material)

DESCRIPTION: Section 204, Public Law 102–580, authorizes the Corps to carry out projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for construction, operation, or maintenance of an authorized Federal navigation project. One of the primary goals of this program is to make beneficial use of clean, suitable dredged material. A major focus is the use of wetlands vegetation to stabilize sediments from dredging. Wetlands vegetation will also take up nutrients from these sediments and silts. Two projects in coastal Louisiana have been carried out under this authority, one at the Sabine National Wildlife Refuge ($600,000), and one at the Barataria Bay Waterway ($800,000). Nationwide, this program has been funded at about $3 million per year.

AGENCY: Army Corps of Engineers (Corps)

PROGRAM: Regulatory Program (Permits)

RESPONSE CATEGORY/SUBCATEGORY: Program/Policy/Regulatory Evaluation

DESCRIPTION: The Corps Regulatory Program, authorized by the Clean Water Act of 1977 (Public Law 95–217) and the River and Harbor Act of 1899, provides an opportunity to help reduce nutrient loading in the Mississippi River drainage or coastal area of the Gulf of Mexico. The Regulatory Program, which requires a Federal permit for anyone to place dredged or fill material in waters of the United States, enables the Corps to work with developers, landowners, and other applicants in reducing or eliminating runoff of sediments and nutrients from credible lands that could otherwise impact upon the Gulf of Mexico.

E. HEALTH AND HUMAN SERVICES PAINT

1. Food and Drug Administration

AGENCY: Food and Drug Administration (FDA)

PROGRAM: Phytoplankton Surveys

RESPONSE CATEGORY/SUBCATEGORY: Science/Research

DESCRIPTION: Phytoplankton surveys seeking potential toxic forms which could cause seafood to be harmful to humans; there may be a connection between nutrient enrichment of Gulf waters from land runoff which is related to both the hypoxic zone and to the conditions favoring blooms of toxic phytoplankton. Any fish killed due to contact with waters of the hypoxic zone would be deemed unfit for food, as would any fish collected from an environmentally caused fish kill, and would be violative if entered into interstate commerce.

The work done on these surveys is not designed to determine the environmental conditions related to the occurrence of toxic phytoplankton, or to conditions which can lead to blooms of these plankton. However, FDA can provide results it obtains on the presence of particular phytoplankton to others who may be able to incorporate those results into a larger analysis of Gulf of Mexico conditions.

AGENCY: Food and Drug Administration (FDA)

PROGRAM: National Shellfish Sanitation Program (NSSP)

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Water Quality Criteria

DESCRIPTION: Establishment of water quality criteria for the safe harvest of molluscan shellfish; to the extent that pollution abatement might occur in order to restore shellfish harvest areas, the criteria of the National Shellfish Sanitation Program (NSSP), a state/federal cooperative program with the FDA could have an effect on contributions to the hypoxic zone.

The States along the Gulf apply the established criteria of the NSSP to determine the opening or closing of shellfish harvest waters so information on the bacterial quality of shellfish harvest waters, which may reflect runoff conditions or river inflow effects, could be obtained and related to other environmental data in the hypoxic zone area for possible correlations between these parameters and the extent of the hypoxic zone.

F. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

AGENCY: Coastal Ocean Program: National Oceanographic and Atmospheric Administration

PROGRAM: The Nutrient Enhanced Coastal Ocean Productivity Program

CATEGORY: Science/Research

SUBCATEGORY: Education and Understanding; Predictive Models; Understanding Nutrient Transport Mechanisms

DESCRIPTION: Much of the understanding of the so-called "dead zone" in the northern Gulf of Mexico (GOM) has been provided through the NOAA Coastal Ocean Program's (COP) Nutrient Enhanced Coastal Ocean Productivity (NECOP) Program. The NECOP study was initiated to address the effects of nutrient discharge in the coastal waters of the United States. The program has focused on the impact of the outflows of the Mississippi and Atchalaya Rivers on the northern GOM coastal waters. Since 1989, some 40 federal and academic scientists have joined forces in an interdisciplinary investigation of the continental shelf of the northern GOM at a total funding of almost $10 million.

Previous research efforts in this region have linked anthropogenic nutrient inputs to the development of hypoxia in the nearshore waters of Louisiana. Hence one of the major goals of the NECOP study was to quantitatively relate the input of the riverborne nutrients in the Mississippi River discharge to the development of hypoxia on the shelf. Much of the NECOP investigations has dealt with the hypoxia, the extent and timing of its occurrence, causal factors, impacts, and history through retrospective analysis. A high priority has been the development of a water quality

model to describe the interrelationships between nutrients, phytoplankton and dissolved oxygen.

Fiscal year 1997 will be the last year of the NECOP Program. NOAA–COP has initiated and advanced the scientific understanding of the processes and mechanics of the Mississippi River Plume. In fiscal year 1997 NECOP will continue with critical monitoring, final data synthesis, further calibration of the water quality model and transfer of the model to Louisiana State University.

The objectives of the NECOP Program have been successfully met. However, a number of research and monitoring uncertainties remain. Future directions in research and monitoring studies should focus on the following:

—continue critical water quality monitoring to maintain the continuity of the long-term database in the northern Gulf of Mexico

—the impacts of nutrients and hypoxia on ecosystem structure and function in the region (including fisheries impacts)

—missing components of the mass balance modeling of phytoplankton, nutrients, and dissolved oxygen.

AGENCY: Office of Habitat Conservation: National Marine Fisheries Service (NMFS); National Oceanic and Atmospheric Administration

PROGRAM: Coastal Wetlands Planning, Protection and Restoration

CATEGORY: Nutrient Management

SUBCATEGORY: Assimilate in the Natural Environment/Restoring Wetlands

DESCRIPTION: Under the Coastal Wetlands Planning, Protection and Restoration Act of 1990 (CWPPRA), the National Marine Fisheries Service (NMFS) is a member of a multi-federal agency Task Force responsible for implementing wetland habitat restoration projects which focus on coastal Louisiana. Louisiana possesses 40 percent of the coastal wetlands in the lower 48 States, but experiences 80 percent of the entire nation's wetlands loss. Each year, 25 square miles of coastal wetlands are lost in Louisiana. The Task Force critically evaluates and awards restoration projects to be jointly implemented between the federal sponsor and the State of Louisiana's Department of Natural Resources (DNR). CWPPRA mandates a cost-share agreement of 75 percent federal funds and 25 percent State funds for all Louisiana projects. The site selection process is based on the proposed project's technical (scientific) merit, cost effectiveness, and predicted wetland quantity and quality. The Task Force was responsible for the preparation of a comprehensive coastal Restoration Plan for the State of Louisiana which was completed in 1993. The Plan provides much of the basis for selecting future restoration projects.

To date, NMFS has awarded 10 grants to Louisiana DNR and works closely with DNR to implement these wetland projects. NMFS-sponsored and funded projects focus on protecting existing wetlands by restoring natural hydrologic regimes of coastal wetlands, creating new wetlands by dredge-deposition and sediment diversions, and enhancing Louisina's barrier islands by nourishment from dredged sediments. Collectively, current NMFS projects will benefit over 45,000 acres of coastal wetland habitat. Joint project funding between NMFS and DNR for these efforts is $40 million.

AGENCY: National Marine Fisheries Service (NMFS): National Oceanographic and Atmospheric Administration

PROGRAM: Magnuson-Stevens Act—Monitoring Landings and Stock Assessment

CATEGORY: Science/Research

SUBCATEGORY: Other (Fishery Statistics; Resource Surveys)

DESCRIPTION: The NMFS collects, complies and analyzes data on landings, fishing effort and stock sizes of fishery species in order to monitor changes and protect against losses in fishery productivity. Since annual variability may be relative large due to environmental factors, long-term databases are necessary to establish trends or changes in patterns of productivity. The database for the shrimp fishery in the Gulf of Mexico is long-term (since 1960) and intensively collected. NMFS port agents take landings data from all major dealers in the Gulf on a monthly basis and conduct interviews with vessel captains in order to identify locations of shrimp catch. In addition, the NMFS conducts two seasonal at-sea surveys each year (summer and fall) in order to provide fishery-independent information on fish and shrimp in the western Gulf of Mexico, via the Southeast Area Marine Assessment Program (SEAMAP). The analyses of these stock assessment data is essential to determining the impacts of hypoxia on fisheries and living marine resources.

AGENCY: National Marine Fisheries Service (NMFS): National Oceanographic and Atmospheric Administration

PROGRAM: Magnuson-Stevens Act—Fishery Management Plans (FMP's)

CATEGORY: Science/Research

SUBCATEGORY: Other (Fish Habitat Conservation)

DESCRIPTION: The NMFS is charged through Magnuson Act (16 U.S.C. 1801 et seq) and it's subsequent re-authorization, the Magnuson-Stevens Act (Public Law (104–208), with identification and conservation of essential habitats for marine and andromous fisheries. Moreover, identification and management of marine fisheries habitats is now (with Magnuson-Stevens Act reauthorization) an integral part of Fishery Management Plans prepared by Regional Fishery Management Councils. In the case of habitat affected by hypoxia off the coast of Louisiana and Texas, the primary concern of the Gulf of Mexico Fishery Management Council is for shrimp, menhaden, red drum, red snapper and other important commercial and recreational fisheries. Since hypoxia degrades the shelf habitat of these fisheries and affects maintenance of their productivity, the NMFS is obligated to measure the annual "extent of hypoxia" through at-sea surveys and other means such as satellite imagery. The NMFS is also committed to work cooperatively with other Federal agencies to assist in providing information that will help in finding ways to reduce the problem.

AGENCY: Office of Ocean Resources Conservation and Assessment National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: National Estuarine Eutrophication Survey

CATEGORY: Science/Research

SUBCATEGORY: Other (Characterization and Assessment)

DESCRIPTION: The goal of the National Estuarine Eutrophication Survey is to comprehensively assess the temporal and spatial scale, scope, and severity of nutrient enrichment and eutrophication-related phenomena in over 100 U.S. estuaries. This is accomplished by collecting information from national, regional, and local experts about 16 different water quality parameters—including the frequency of occurrence and spatial extent of hypoxia and anoxia—for each estuarine system. The results of the survey for the Gulf of Mexico estuaries have recently been confirmed in a regional workshop held in the summer of 1996.

The extent to which the oxygen-poor water from the hypoxic area may be affecting low dissolved oxygen conditions in estuarine systems in Louisiana and Texas is not well understood. Because the Eutrophication Survey evaluates trends in eutrophication, and assesses the severity of this problem for the tidal fresh, mixing, and seawater zones (i.e., the head, main body, and mouth) of each estuary, it may be possible to detect the influence of an offshore input of low-oxygen water from the hypoxic area on different segments of the estuary, and also possibly the change in this influence over time. Further, because the Survey comprehensively covers the major estuarine systems in the Gulf of Mexico using a consistent survey approach, it will be possible to evaluate and compare potential impacts among estuarine systems.

AGENCY: Office of Ocean Resources Conservation and Assessment: National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: Strategic Assessment of the Gulf of Mexico Program's Shellfish Challenge

CATEGORY: PROGRAM/POLICY

SUBCATEGORY: Other (Planning and Assessment)

DESCRIPTION: The goal of the Gulf of Mexico Program's Shellfish Challenge Project is to increase Gulf shellfish beds available for safe harvest by 10 percent. Over the past year, the Program has brought together Federal, state, and local stakeholders to examine the nature of the problems causing harvest limitations of shellfish growing waters, and to identify watershed-based solutions on a regional scale. The next step is to translate these regional strategies into action within priority watersheds.

The strategic planning process used to target "best candidate" watersheds for different priority shellfish restoration strategies could be readily adapted to identifying priority areas for various nutrient reduction actions that are needed to address the hypoxia zone problem. Such an approach is important because the hypoxia zone and the watershed in which the nutrient discharges originate is a diverse and complex environment in which many of the physical and biological processes and their interrelationships are not well understood. The cumulative effects of human activities have resulted in an environmental problem on a regional scale that is unprecedented. In addition, the mix of Federal, state, and local governments, non-governmental organizations and public stakeholders required to address this problem make for an extraordinarily complex management context in which to forge solutions. In this decision-making context of scientific and management uncertainty, a comprehensive and integrated assessment framework is an essential building block to provide managers with the synthesized information necessary to not only identify the appropriate management strategies and actions to implement but also to evalu-

ate their effectiveness in a timely manner and target the locations where these actions should be directed.

AGENCY: Office of Ocean Resources Conservation and Assessment: National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: Gulf of Mexico Land Based Sources Inventory

CATEGORY: Science/Research

SUBCATEGORY: Loadings Characterization

DESCRIPTION: The goal of the Gulf of Mexico Land Based Sources Inventory is to develop an integrated inventory of point, urban nonpoint, and nonurban nonpoint sources of pollution and associated nutrient discharge estimates for the coastal watersheds of the Gulf of Mexico for a base year of 1991. Estimates will be available on a seasonal basis, and can be aggregated by county, USGS hydrologic cataloging unit, or estuarine drainage area. The inventory will be completed in January 1997.

A prerequisite to developing a comprehensive management strategy for the hypoxia zone is an understanding of the location, timing, magnitude, and temporal and spatial distribution of pollutant sources and discharges in coastal watersheds, and an assessment of the relative contribution of discharges among various sources, both with and across watersheds. This project will provide estimates of point and nonpoint source pollution into each of the local coastal water areas of the Gulf coastline. Local authorities can use the estimates to evaluate their areas of responsibility to help establish a baseline for discharges and to support the targeting of control strategies.

AGENCY: Office of Ocean Resources Conservation and Assessment: National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: Gulf of Mexico Habitat Suitability Project

CATEGORY: Nurtrient Management

SUBCATEGORY: Managing Coastal Resources

DESCRIPTION: The Gulf of Mexico Habitat Suitability Project assembles information on key environmental parameters (e.g., salinity, temperature, substrate, dissolved oxygen, etc.) as inputs to a habitat suitability model that attempts to target areas of differing environmental fitness for selected finfish and crustacea in Gulf estuaries. A pilot study has recently been completed for Pensacola Bay for oysters, white shrimp, and spotted sea trout. A protocol for application of the approach to other estuarine systems in the Gulf is currently being developed.

The results of the habitat suitability analyses for the estuaries and near coastal areas affected by the hypoxic zone could provide insights regarding the impact of various management strategies under consideration on these systems. For example, one strategy that has been discussed to mitigate the delivery of nutrients to the mouth of the Mississippi River is to divert flow to Barataria Bay and Breton/Chadeleur Sounds. Such diversions would have a significant impact on the environmental conditions and species in these systems. The habitat suitability information could be used to evaluate pre- and post-diversions conditions resulting from these management actions.

AGENCY: Office of Ocean Resources Conservation and Assessment; National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: Coastal Assessment Framework

CATEGORY: Program/Policy

SUBCATEGORY: Other (Planning and Assessment)

DESCRIPTION: NOAA's Coastal Assessment Framework is a digital set of spatial areas that has been developed to provide a consistently derived framework that managers and analysts can use to organize and present information on the Nation's coastal, near-ocean, and Great Lakes resources. The framework encompasses over 80 percent of the land areas within the contiguous United States and includes the drainage basins of nearly all the Nation's rivers. It is available on CD–ROM or can be downloaded from NOAA's internet site.

The Coastal Assessment Framework could serve as the starting point for building an "integrated" spatial decision-analysis system to support management strategy development to address the Mississippi River hypoxia zone. Actual development and application of such a framework would be the logical next step in a long-term management process. The goal would be to design a tool to make the best use of existing management programs and projects at the Federal, state, and local levels, and to identify where to implement effective and cost efficient new management strategies over time. The system should include data and information that will help mangers: (1) determine the current status of the ecosystem; (2) detect changes and trends; validate and verify predictive models; (3) enhance the knowledge and understanding of the processes affecting the ecosystem; (4) serve as an early warning of future problems; (5) and most importantly, evaluate the efficacy of local and regional nutrient management strategies and policies.

AGENCY: Office of Ocean Resources Conservation and Assessment: National Ocean Service: National Oceanic and Atmospheric Administration

PROGRAM: Gulf of Mexico Estuarine and Offshore Living Marine Resources Mapping

CATEGORY: Nutrient Management

SUBCATEGORY Managing Coastal Resources

DESCRIPTION:

NOAA's Estuarine Living Marine Resources (ELMR) project currently includes information on the presence, distribution, and relative abundance by five life stages of over 40 fish and invertebrate species in the 31 estuaries of the Gulf of Mexico. Information in ELMR is currently being updated to support the development of Environmental Sensitivity Maps for oil spill response in the Gulf of Mexico. As part of the update process, the distribution of species will be refined from three to five salinity zones within each estuarine system. In addition, characterization of the presence, distribution, and relative abundance of up to 10 important offshore species will be undertaken.

Knowledge of the fish and invertebrate distributions in ELMR will be extremely useful in understanding the impact of the hypoxic zone on both offshore and estuarine dependent species. Moreover, if this information could be combined with other habitat parameters to produce habitat suitability models, managers could evaluate the impact of phenomena such as the hypoxia zone on fisheries productivity and availability of habitat.

AGENCY: Office of Ocean and Coastal Resource Management; National Ocean Service; National Oceanic and Atmospheric Administration

PROGRAM: Weeks Bay National Estuarine Research Reserve

CATEGORY: Science/Research

SUBCATEGORY: Education and Understanding; Predictive Models

DESCRIPTION: The National Estuarine Research Reserve System (NERRS) is a Federal-State cooperative program that manages a national system of estuarine research reserves through long-term protection of the estuarine resources. This management provides a basis for research, enhancement of public awareness and education, and collection and provision of information for better management of regions.

Weeks Bay, a small estuarine embayment of Mobile Bay, Alabama, was designated a Reserve in 1986. The Weeks Bay NERR encompasses a variety of habitat that provides support for a variety of organisms including critical nursery ground for fish and shellfish. Ongoing research programs include assessment and abatement of non-point source pollution and hydrodynamic modeling. The Reserve also has a volunteer program to enhance public involvement in estuarine protection. Activities in the Weeks Bay NERR are jointly funded by Federal and State dollars as well as grants.

AGENCY: Office of Ocean and Coastal Resource Management; National Ocean Service; National Oceanic and Atmospheric Administration

PROGRAM: Environmental Sensitivity Index

CATEGORY: Science/Research

SUBCATEGORY: Other (Environmental Mapping)

DESCRIPTION: The most widely used approach to sensitive environment mapping in the United States is NOAA's Environmental Sensitivity Index (ESI) approach. This approach systematically compiles information in standard formats for coastal shoreline sensitivity, biological resources, and human-use resources. The ESI's are an important tool in spill response, to reduce the environmental consequences of the spill and cleanup efforts. Current work with the Environmental Protection Agency focuses on extending the ESI methodology to inland rivers, and smaller ponds and streams. While these Riverine Sensitivity Index maps were developed to assist in the development of inland spill response plans, both this work and the coastal EST's have broader applicability for resource management purposes.

The ESI strategy emphasizes standard methods for shoreline sensitivity rankings, data structures for organizing resource information, and map formats, for both electronic and hard copy output. NOAA is developing advanced applications to apply the advantages of Geographic Information Systems (GIS) for data access by local resource managers. NOAA is undertaking a wide-ranging program to promote open ESI standards and develop digital ESI databases for high-priority coastal areas in partnership with individual States and other Federal agencies. NOAA and the State of Texas completed ESI mapping along the upper Texas coast in 1995. NOAA and the States completed in Alabama and Mississippi in 1996. The State of Florida recently completed ESI mapping for the entire state. The State of Louisiana plans to begin ESI work in 1997. The state of Texas will begin ESI work for the remaining coastal areas of the state in 1997.

AGENCY: Office of Ocean and Coastal Resource Management; National Ocean Service; National Oceanic and Atmospheric Administration

PROGRAM: Coastal Zone Management Program

CATEGORY: Program/Policy

SUBCATEGORY: Other (Assessment, Monitoring, and Management of Wetlands and Coastal Nonpoint Source Pollution; Education)

DESCRIPTION: The National Ocean Service/Office of Ocean and Coastal Resource Management (NOS/OCRM) provides technical and programmatic assistance and grant funding to States/territories under the authority of the Coastal Zone Management Act (CZMA) of 1972. OCRM administers the Coastal Zone Management (CZM) Program in partnership with twenty-nine Federally approved programs, and five developing programs. Each fiscal year, CZM States/territories submit projects for OCRM approval, that are consistent with CZMA statutory program mandates, as they relate to coastal resource management. This allows CZM States/territories to develop and implement projects in a variety of national priorities areas; including, wetlands protection and coastal nonpoint source pollution. For States/territories in the Gulf Region (including Alabama, Florida, Louisiana, Mississippi, Puerto Rico and the U.S. Virgin Islands), annual CZM funding is a total of about $8.6 million. The state of Texas is in the process of seeking Federal program approval, and has also received CZM funding to support development of its program. To address the issue of hypoxia in the Gulf of Mexico, OCRM would encourage building upon the current or planned resource assessment, monitoring, education and management regimes of the Federally approved CZM programs for controlling nutrients and other nonpoint source pollution.

AGENCY: Office of Ocean and Coastal Resource Management; National Ocean Service; National Oceanic and Atmospheric Administration

PROGRAM: Coastal Zone Act Reauthorization Amendments of 1990 Section 6217—Coastal Nonpoint Pollution Control Program

CATEGORY: Nutrient Management

SUBCATEGORY: Nutrient Source Management

DESCRIPTION: NOAA and EPA are jointly responsible for the administration of the coastal nonpoint program established under section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Under CZARA, the 29 States and territories with coastal zone management programs which have received federal approval under section 306 of the Coastal Zone Management Act are required to develop and implement programs to protect and restore coastal waters. The program requires States to implement management measures for nonpoint sources including agriculture, forestry, urban development, marinas, and hydromodification. Management measures must also be implemented for wetlands protection, riparian areas, and vegetated treatment systems. Section 6217 also requires that state programs include enforceable policies and mechanisms to ensure the widespread implementation of the management measures where education, voluntary programs and incentives do not result in management measure implementation. Alabama, Florida, Louisiana, and Mississippi all are developing coastal nonpoint source pollution controls as part of their state coastal management programs and Texas will also have a nonpoint program as part of its CZMA program when it receives final approval. Under section 6217, States and territories received funding for program development. From 1992 through 1996, $13 million was provided to the 29 States and territories.

G. UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Environmental Quality Incentives Program

RESPONSE CATEGORY/SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: The Environmental Quality Incentives Program (EQIP) provides in a single, voluntary program flexible technical, financial, and educational assistance to farmers and ranchers who face serious threats to soil, water, and related natural resources on agricultural land and other land, including grazing lands, wetlands, forest land, and wildlife habitat. Assistance will be provided in a manner that maximizes environmental benefits per dollar expended. Producers will be aided in malting beneficial, cost-effective changes to conserve and improve soil, water, and related natural resources on their farm and ranch operations. $200 million is to be made available for each of fiscal years 1997 through 2002. Fifty percent of the funding available for the program will be targeted at practices relating to livestock production.

Needs Assessment and Selecting Priority Areas

The program will primarily be available in priority conservation areas throughout the Nation. The priority areas will be watersheds, regions, or areas of special environmental sensitivity or having significant soil, water, or related natural resource concerns. The State Conservationist, with the advice of the State Technical Committee, sets priorities for the program. State approved priority areas are submitted to the Chief of NRCS, who consults with other national agencies and conservation partners to determine a priority for funding. The Chief makes funding decisions, with concurrence of Farm Service Agency for the priority areas. State Conservationists, with the advice of the State Technical Committee, may also determine that program assistance is needed by producers located outside of funded priority areas that are subject to environmental requirements, or who have other significant natural resource concerns. States establishing programs to accelerate adoption of cost-effective, special-emphasis practices will be given priority for these funds. Conservation Plan and Contract Program participation is voluntary and initiated by the producer who makes an application for participation. Contract applications will be accepted throughout the year. The Farm Service Agency county committee approves for funding the highest ranking applications. Approved applicants are responsible for developing and submitting a conservation plan encompassing the producer's farming or ranching unit of concern. The conservation plan, when implemented, must protect the soil, water, or related natural resources in a manner that meets the purposes of the program and is acceptable to NRCS and the conservation district.

The contract, developed and administered by Farm Service Agency, provides for cost-sharing and incentive payments between the producer and the Secretary of the Department of Agriculture for applying the needed conservation practices and land use adjustments within a specified time schedule. Because fifty percent of the available EQIP funds are to be targeted at natural resource concerns relating to livestock production, it is expected that a significant portion of the program will be for conservation practices that address non-point source water quality concerns caused by animal manure. The program is expected to assist with the reduction of excess nutrient loading within the watershed. EQIP is expected to be operational in November, 1996, at which time the funding decisions for program delivery in priority areas and other locations will be made. Projections on the number of priority areas or the amount of funds to be expended in the Gulf of Mexico drainage basin cannot be estimated at this time.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Forestry Incentives Program (FIP)

RESPONSE CATEGORY/SUBCATEGORY: Program/Policy Activities

DESCRIPTION: The Forestry Incentives Program (FIP) is jointly administered at the national and regional level by the Natural Resources Conservation Service (NRCS) and the Forest Service (FS), both agencies are located in the United States Department of Agriculture (USDA). The NRCS administers FIP at the State and county level in consultation with the State Forester. State forestry provides the technical assistance needed to install timber production practices on the land. FIP provides cost-share assistance, up to 65 percent of the cost of installing practices. Three timber production practices are available: FP1, Planting Trees; FP2, Improving a Stand of Forest Trees; and FP3, Site Preparation for Natural Regeneration. The U.S. Forest Service is responsible for determining the States, to receive funding for FIP, which have the greatest potential for producing the most efficient timber stands. The State Forester recommends the counties within the respective State where the program will be offered, to maximize the results of the cost-share funds. FIP participants in thirty-one of the thirty-three States in the Mississippi River drainage system, received $8,200,885.00, or 89 percent of the total FIP cost-share payments earned in the 1995 fiscal year. A total of 154,147 acres, or 93 percent of the total FIP acres treated in the 1995 fiscal year were located in the Mississippi River drainage system. The funding level, nationally, for FIP in fiscal years 1996 and 1997 has been $6,325,000.00. FIP practices, especially tree planting, provides watershed protection by reducing soil erosion, filtering chemicals, providing forest cover for nutrient uptake and reducing runoff from entering into the streams flowing into the Mississippi River. Other FIP practices improve forest stands, preventing their conversion to agriculture land and increasing their nutrient uptake efficiency and productivity. These "win-win" actions would benefit the landowner by providing timber sales for the future and would reduce the soil erosion running off into the Mississippi River system and Gulf of Mexico.

AGENCY: USDA—Natural Resources Conservation Service (NRCS)

PROGRAM: Agroforestry "Working Trees for Agriculture"

RESPONSE CATEGORY/SUBCATEGORY: Program/Policy Activities

DESCRIPTION: "Working Trees for Agriculture" is a national project involving numerous agencies and nongovernmental organizations to increase the understanding, acceptance, and use of agroforestry practices to attain more diverse and sustainable agricultural land-use systems. The project has two parts: (1) jointly develop and deliver a portfolio of agroforestry technology transfer and awareness activities to field specialists, so they understand the technologies, how to apply them and enable them to assist landowners to apply the practices; and (2) a privately-funded national program that involves local youth groups planting and maintaining agroforestry demonstration projects and using them for conservation education. The National Agroforestry Center, located at Lincoln, Nebraska, provides leadership for the "Working Trees for Agriculture" project. The National Agroforestry Center is a partnership of the USDA Forest Service and Natural Resources Conservation Service and provides National leadership in Agroforestry research and technology transfer. Agroforestry practices, such as, riparian buffer strips, streambank bioengineering, alley cropping, timberbelts, field windbreaks and animal waste disposal plantings intercept and store excess nutrients, filter chemicals, reduce soil erosion, improve water quality, and reduce runoff. Agroforestry can be a valuable alternative for providing watershed protection to keep our water clean and more suitable for recreational use, domestic water use, and fish and wildlife habitat.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Conservation Reserve Program

RESPONSE/CATEGORY/SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: At the Federal level, the USDA-Farm Service Agency (FSA) administers the Conservation Reserve Program (CRP) which provides for the conversion of certain cropland to permanent vegetative cover, wildlife habitat, or tree plantings. Technical assistance for the CRP is provided by the Natural Resources Conservation Service (NRCS). There have been thirteen public sign-up/enrollment periods since the inception of the program in 1986. More than 33 million acres are currently enrolled. The 1996 Farm Bill established a cap of 36.4 million acres eligible for enrollment at any time.

Land eligibility requirements generally encourage the most highly erodible and the most environmentally sensitive lands to be enrolled into the CRP. As a result, land which likely is yielding substantial sediment, nutrients, and pesticides constitute the majority of land currently enrolled in the CRP. Changes in the 1996 Farm Bill are expected to allow better targeting of environmentally sensitive acres including riparian buffers, waterways, and grass filter strips. A provision to allow continuous sign-up and automatic approval for land enrolled in these and similar practices promise to make the CRP even more successful in coming years.

Scope and extent of CRP to the Gulf of Mexico drainage: In the 33 States contributing to the drainage to the Gulf of Mexico, approximately 31.4 million acres of cropland is currently enrolled in the Conservation Reserve Program. According to the latest Natural Resources Inventory (NRI), average soil loss reduction due to CRP participation in these States is approximately 17.6 tons per acre, per year. In 1996, annual contract payments for land enrolled in CRP from within the Gulf of Mexico drainage was $1,572,654,934.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Wetlands Reserve Program (WRP)

RESPONSE CATEGORY/SUBCATEGORY: Program/Policy Activities

DESCRIPTION: The Natural Resources Conservation Service (NRCS), an agency located in the United States Department of Agriculture, administers the Wetlands Reserve Program (WRP). The WRP is a voluntary program through which a landowner agrees to the restoration and protection of agricultural wetlands on his or her land by selling a conservation easement to the United States. NRCS compensates landowners for the conveyance of the easement and provides cost-share assistance for the installation of practices that restore wetlands. Additionally, NRCS may enter into restoration cost-share agreements with landowners without acquiring an easement. NRCS provides up to 100 percent cost-share assistance for the restoration practices on lands enrolled through permanent easement, and up to 75 percent cost-share assistance for the restoration practices on lands enrolled through 30-year easements or restoration cost-share agreements.

Landowners apply for enrollment in the program during an announced sign-up period. NRCS evaluates the eligibility of the acres offered, ranks the eligible offers according to environmental and cost criteria, and then extends offers to the landowners with the high priority lands. The NRCS administers WRP at the State level in consultation with the State Technical Committee, authorized by 16 U.S.C. 3861. The greatest enrollment of lands occurs in the Mississippi drainage system. The funding level, nationally, for WRP has been approximately $80 million annually. Enrollment of WRP acres in the Mississippi River drainage system provides water-

shed protection by reducing flood hazards, enhancing riparian buffer areas, filtering chemicals, increasing forest cover, and reducing runoff from entering into the streams flowing into the Mississippi River.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Title XII Wetland Conservation Provisions

RESPONSE CATEGORY/SUBCATEGORY: Program/Policy Activities

DESCRIPTION: The Natural Resources Conservation Service (NRCS), an agency located in the United States Department of Agriculture, administers the wetland conservation (WC) provisions of the Food Security Act of 1985, as amended, 16 U.S.C 3821 et seq. The WC provisions link eligibility for certain USDA program benefits to land management measures. In particular, producers are ineligible for program benefits if they produce an agricultural commodity on a wetland converted after December 23, 1985, or, after November 28, 1990, convert a wetland that makes the production of an agricultural commodity possible. The WC provisions have helped reduce the number of wetland acres lost to agricultural conversion to a fraction of the acres that were converted prior to 1985. Due to the distribution of agricultural wetlands, most of the impact of the WC provisions occurs within the Mississippi River drainage system. The WC provisions protect the functions and values of wetlands within the Mississippi watershed by enhancing habitat for migratory birds and other wildlife, improving water quality, attenuating the water flows due to floods, and recharging ground water supplies.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Water Quality Program

RESPONSE/CATEGORY SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: The USDA Water Quality Program provides funds for research, education, technical assistance, data collection, and program evaluation. These funds are allocated among five USDA agencies, and are used to address various aspects of water contamination by agricultural chemicals, including plant nutrients, from chemical fertilizers and animal manures. About one-half of the annual expenditures are made within agency for research (e.g., the Management Systems Evaluation Area projects conducted largely within the Mississippi drainage), and associated component-research programs conducted by the State Agricultural Experiment Stations. The other expenditures are used to implement specific State identified projects to address agriculture-related water quality problems. Of these, approximately 20 (of 74) Hydrologic Unit Area Projects and two (of 16) Demonstration Projects are located in the Mississippi drainage. Since 1990, the USDA Water Quality Program has invested some $60 million in such efforts in the Gulf of Mexico watershed.

To address the hypoxia issue, USDA intends to build upon current voluntary, incentive-driven approaches. Specifically, USDA would encourage a renewed emphasis on nutrient management within the education, financial, and technical assistance components of the Program. Wider use of the Pre-Sidedress Nitrogen Test; increased soil testing for nutrient availability; improved management of animal manures applied to croplands; adoption of controlled drainage; and the use of improved irrigation management techniques, can reduce farmer costs and reduce inputs of nitrogen to the watershed. These "win-win" actions would reduce the potential loadings to the river system and the Gulf of Mexico. USDA and its State cooperators will also share examples from other regions where such strategies have reduced input costs and nitrogen loads to the aquatic environment.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Water Quality Initiative

RESPONSE/CATEGORY SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: Overview

At the Federal level the USDA administers the USDA Water Quality Program, which provides funds for research, education, technical assistance, and program evaluation. These funds are allocated among five USDA agencies, and are used to address various aspects of water contamination by agricultural chemicals, including plant nutrients from chemical fertilizers and animal manures. About one-half of the annual expenditures are made within agency for research (most notably, the Management Systems Evaluation Area projects conducted largely within the Corn Belt and largely within the Mississippi drainage). These research programs are conducted in cooperation with the State Agricultural Experiment Stations. The other expenditures are used to implement specific State-identified projects to address agriculture-related water quality problems. Of these, approximately 20 (of 74) Hydrologic Unit Area Projects are located in the Mississippi drainage, along with two (of 16) Demonstration Projects.

For addressing the hypoxia issue, USDA intends to build upon current voluntary, incentive driven approaches. Specifically, USDA would encourage a renewed empha-

sis on nutrient management within the education and technical assistance components of the Program. In particular, wider use of the Pre-Sidedress Nitrogen Test, deep soil sampling, and recognizing the nutrients in animal manure applied to croplands can reduce farmer input costs, and reduce inputs of nitrogen to the watershed. These "win-win" actions would reduce the potential loadings to the river system and the Gulf of Mexico. USDA and its State cooperators will also share examples from other regions where such strategies have reduced input costs and nitrogen loads to the aquatic environment. Since 1990, some $3 million has been expended on Demonstration Projects and Hydrologic Unit Area Projects in the watershed.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Water Quality Initiative

RESPONSE/CATEGORY SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: Management System Evaluation Areas

At the Federal level the USDA Water Quality Program provides funds for research through the Agricultural Research Service and the Cooperative State Research, Education and Extension Service. These funds are allocated among the agencies for component research and the Management System Evaluation Area program coordinated by five Midwestern States: Minnesota, Iowa, Nebraska, Missouri, and Ohio. Watershed, field, and plot sized research addresses various aspects of water contamination by agricultural chemicals, including plant nutrients from chemical fertilizers and animal manures. These research programs are conducted in cooperation with the State Agricultural Experiment Stations, USGS, and EPA. For addressing the hypoxia issue, USDA will continue support of the MSEA program which was funded at $17.8 million in 1996. Of this, $15 million was allocated to ARS, and $2.7 million to CSREES, USDA and its partners are continuing efforts to address agricultural, and environmental issues.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Water Quality Initiative

RESPONSE/CATEGORY SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: Hydrologic unit assessment areas

At the Federal level the USDA Water Quality Program provides funds for technical assistance and education through the Natural Resources Conservation Service and the Cooperative State Research, Education and Extension Service. In the early 1990's, the Farm Service Agency also assisted by proving financial assistance. Funds are allocated among the agencies for 78 hydrologic unit assessment areas located in every state except Nevada and Alaska. All sites were selected in 1990 and 1991 in cooperation with the U.S. Environmental Protection Agency. These projects address various aspects of water contamination by agricultural chemicals, including plant nutrients from chemical fertilizers and animal manures.

For addressing the hypoxia issue, USDA will continue support of the HUA program which was funded at $16 million in 1996. Of this, $11 million was allocated to ARCS, and $4.2 million to CSREES. Specifically, USDA would encourage a renewed emphasis on nutrient management within the education and technical assistance programs of the Water Quality Initiative. Since 1990, some $3 million has been expended in the Mississippi watershed.

AGENCY: United States Department of Agriculture (USDA)

PROGRAM: Water Quality Initiative

RESPONSE/CATEGORY SUBCATEGORY: Water Quality/Nutrient Management

DESCRIPTION: Demonstration Projects

At the Federal level the USDA administers the USDA Water Quality Program, which includes funds for demonstration projects in 16 States. All were selected in 1990 and 1991. Four of the projects are within the Mississippi River drainage. They are located in Arkansas, Iowa, Nebraska, and South Dakota. Funds are allocated among two USDA agencies, the Cooperative State Research, Education and Extension Service and the Natural Resources Conservation Service. These large-scale projects are used to address various aspects of water contamination by agricultural chemicals, including plant nutrients from chemical fertilizers and animal manures.

For addressing the hypoxia issue, USDA intends to build upon current voluntary, incentive driven approaches. Specifically, USDA would encourage a renewed emphasis on nutrient management within the education and technical assistance components of the Program. In particular, wider use of the Pre-Sidedress Nitrogen Test, deep soil sampling, and recognizing the nutrients in animal manure applied to croplands can reduce farmer input costs, and reduce inputs of nitrogen to the watershed. These "win-win" actions would reduce the potential loadings to the river system and the Gulf of Mexico. USDA and its State cooperators will also share examples from other regions where such strategies have reduced input costs and nitrogen loads to the aquatic environment. In 1996, some $6 million was expended on Demonstration Projects.

APPENDIX A–1

RESEARCH TOOLS AVAILABLE

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Research and Development, National Risk Management Research

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Research on restoration techniques

DESCRIPTION: This Risk Management Research Plan for Ecosystem Restoration in Watersheds is still under development, although it is almost ready for external peer review. This plan is intended to describe the risk management research needed over the next five years to identify and develop ecosystem restoration practices and technologies that facilitate cost-effective decision-making by local communities and stakeholder groups engaged in watershed planning and place-based environmental protection. This multimedia, inter-disciplinary program integrates and coordinates a broad range of scientific and engineering capabilities focused on the risk management research needs of selected highly ranked risks. The scope of the plan is limited to the activities of the National Risk Management Research Laboratory, and further limited to Community-Based Environmental Protection and restoration of damaged or impaired aquatic ecosystems in a watershed planning context. While not excluding other areas, this plan places special emphasis on the developing fringe areas upstream of Metropolitan Statistical Areas, and developing coastal and estuarine areas. It does not contain specific projects. While this plan has no specific focus on the hypoxia issue, it is anticipated that some of the restoration techniques it encompasses will be applicable to the nutrient reduction needs of the Gulf of Mexico, and transferable to numerous watersheds within the Gulf's extensive drainage Basin.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Research and Development, National Exposure Research Laboratory, Ecosystem Research Division/Athens GA: (1) Hydrologic Simulation Model-FORTRAN, and (2) Water Analysis Simulation Program (WASP)

RESPONSE CATEGORY/SUBCATEGORY: Science/Research/Understanding nutrient transport mechanisms and Loadings characterization

DESCRIPTION: The Hydrologic Simulation Model-FORTRAN (HSPF) is complete and is not, as such, "activities underway." HSPF has applicability in the Mississippi River Basin, but its application there would require extensive resource commitments. It is currently being applied to the Minnesota River Basin, for example, for nonpoint source modeling, and has been applied in the Iowa River Basin and Yazoo River Basin for pesticides. HSPF is currently being used for the Chesapeake Bay Watershed Model, as a tool in meeting the 40 percent nutrient reduction goal for the Bay. This model is only applicable to upland watersheds with free-flowing rivers. The Water Analysis Simulation Program (WASP) is a more advanced stream transport model, which is more applicable to large rivers with complex hydrodynamics, and can be used on regulated (not free-flowing) rivers. It has been used widely, including on Lake Erie, for nutrient reduction goals and elsewhere for fate and transport of pesticides and toxic substances. It is currently being developed for application in the Everglades for evaluating mercury.

AGENCY: United States Environmental Protection Agency (EPA)

PROGRAM: Office of Research and Development/National Health and Environmental Effects Research Laboratory (NERL)/Mid-Continent Ecology Division

CATEGORY: Research related to Hypoxia

SUBCATEGORY: Other

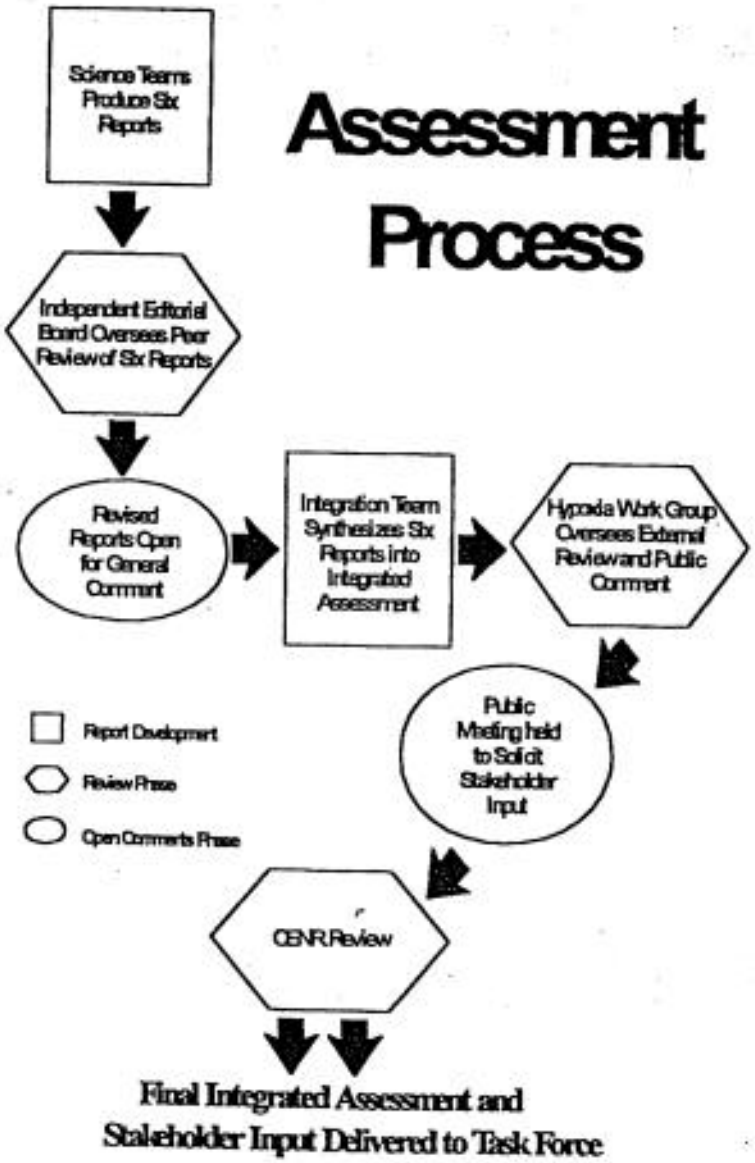
DESCRIPTION: Research will be conducted to improve our understanding of the relationship between landscape characteristics, land-use patterns, and water quality. These relationships will include the effects of forest fragmentation and wetland distribution on the dynamics of nutrients in streams and rivers. Although the initial geographic focus of this research is the Great Lakes basin, the information obtained should be transferable to the upper Mississippi River basin. As the research develops, the focus of the effort will be expanded to include this portion of the Mississippi River. The information will assist in determining the extent to which land-use patterns in the upper Mississippi River effect nutrient loadings that may contribute to the hypoxia problem in the Gulf of Mexico as well as providing insights as to what modifications in current practices may assist in alleviating these loadings. This research is an in-house effort with approximately 6 person years expended annually starting in fiscal year 1997.

ATTACHMENT 2

TABLE 1. PRIORITY HYPOXIA RESPONSE PROGRAM ACTIVITIES FOR FY'97

Priority Area	Agency	Program
Nutrient Management	EPA	Clean Water Act Section 319 Nonpoint Source Water/Air Program Coordination Initiative Watersheds - Nutrient Characterization Water Quality Criteria - Nutrients State Revolving Fund - Funding
	USDA	Vegetative Buffer Initiative Environmental Quality Incentives (EQIP) Conservation Reserve Wildlife Habitat Incentive Water Quality Program
	NOAA	Coastal Zone Management Act Section 6217
	DOD/COE	Coastal Wetlands Planning, Protection and Restoration Upper Mississippi River System Environmental Management Mississippi River Diversion Projects
Monitoring, Modeling, & Assessment	GMPO	Gulf of Mexico Hypoxia Zone Gulf of Mexico Modeling
	DOI/USGS	National Water Quality Assessment National Stream Quality Accounting Network II
	NOAA	National Estuarine Eutrophication Survey/Eutrophication Indicator Development Gulf Fisheries Monitoring
	USDA	Water Quality Program
Education & Outreach	GMPO	Mississippi River Watershed & Gulf of Mexico
	USDA	Water Quality Program
	EPA	Clean Water Act Section 319 Nonpoint Source
Research	NOAA	Nutrient Enhanced Coastal Ocean Productivity
	USDA	Water Quality Program

ATTACHMENT 3



ATTACHMENT 4

GULF OF MEXICO HYPOXIA ASSESSMENT PLAN

1. Background

Nutrient over-enrichment from anthropogenic sources (human activities) is one of the major stresses impacting coastal ecosystems. There is increasing concern in many areas around the world that nutrient enrichment from multiple sources is having pervasive ecological effects on shallow coastal and estuarine areas. These effects include reduced sunlight, loss of aquatic habitat, a decrease in dissolved oxygen, and impacts on living resources. Depending on the amount and types of nutrients in an ecosystem, algal production can be either limited or enhanced. Generally, excess nutrients lead to increased algal production and increased availability of organic carbon within an ecosystem, a process known as eutrophication. This algal "over production" may sink to the bottom and decay, consuming most (hypoxia), if not all (anoxia) of the available oxygen in these bottom waters. On a national scale, there are increasing concerns for the effects of nutrient over-enrichment and associated problems such as eutrophication, hypoxia, and increases in harmful algal blooms in coastal ecosystems. Because nutrient enrichment can have multiple impacts, which can include increases in ecosystem productivity as well as hypoxia, this underscores the need for careful assessment of the causes of and impacts of nutrient enrichment.

There are multiple sources of excessive nutrients in watersheds, both point and non-point, and the transport and delivery of these nutrients is a complex process which is controlled by many factors including not only the chemistry, but also the ecology, hydrology, and geomorphology of the various portions of a watershed and that of the receiving system. Both the near-coastal hydrodynamics that generate water column stratification and the nutrients that fuel primary productivity contribute to the formation of hypoxic zones. Human activities on land can add excess nutrients to coastal areas or compromise the ability of ecosystems to remove nutrients either from the landscape or from the waterways themselves.

Hypoxia occurs naturally in many parts of the world (e.g., Black Sea, Baltic Sea, Chesapeake Bay, New York Bight). While hypoxic and anoxic environments have existed throughout geologic time, their occurrence in shallow coastal and estuarine areas appears to be increasing, most likely accelerated by human-induced activities (Diaz and Rosenberg, 1995). As a result, ecological problems associated with the occurrence of low oxygen conditions are increasing on a global scale (Ortner and Dagg, 1995).

Scientific investigations in the field and the laboratory have documented an enormous area of the Louisiana (USA) continental shelf with seasonally-depleted oxygen levels (<2mg/l) extending as much as 20 meters from the bottom depending on the water depth (Figure 1). The oxygen depletion begins in late spring, reaches a maximum in mid-summer, and disappears in the fall. After the Mississippi River flood of 1993, the spatial extent of this zone doubled to over 18,000 km^2 and has remained about that size each year since (through mid-summer 1997). Model simulations and research studies, including retrospective analyses, have produced considerable evidence that nutrient loading from the Mississippi and Atchafalaya river systems is the dominant factor in creating this hypoxia problem (Atwood et al. 1994). The hypoxic zone forms in the middle of the most important commercial and recreational fisheries in the coterminous United States and threatens the economy of this region of the Gulf.

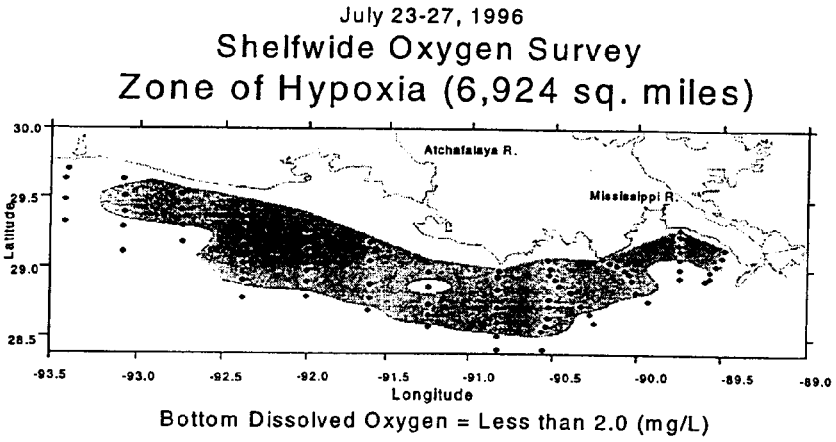


Figure 1. Northern Gulf of Mexico hypoxia, summer 1996.

In response to a petition from the Earthjustice Defense Fund (formerly known as the Sierra Club Legal Defense Fund, Inc.), the Gulf of Mexico Program held a conference in December 1995 to outline the issue and identify potential actions. Following that conference, the Environmental Protection Agency (EPA) convened an interagency group of senior Administration officials ("the Principals") to discuss potential policy actions and related science needs. After two meetings, the Principals asked an interim working group (IWG) to develop recommendations for action. The IWG made three recommendations that were endorsed by the Principals at a meeting in June 1997:

—Establish a formal coordinating structure led by the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (the "Task Force");

—Highlight and emphasize a series of existing programs and actions, focused on identifying immediate win-win, no-regret actions; and,

—Support an initiative for both stewardship and scientific support elements.

The Task Force has initiated a two-track effort to respond to the hypoxia issue. The first is an ecosystem/watershed management track, to identify near-term "win-win" actions to reduce excess nutrient loads. The second track is an assessment of the state of scientific knowledge and understanding of the problem. The plan presented here describes the science assessment track.

As part of the process of developing potential actions, the EPA asked the White House Office of Science and Technology Policy to conduct a scientific assessment of the causes and consequences of Gulf hypoxia through its Committee on Environment and Natural Resources (CENR). While NOAA has been asked to lead this CENR scientific assessment, oversight involves several federal agencies and the assessment itself is being conducted by teams that include academic, federal, and state scientists from within and outside the Mississippi River watershed. The assessment of the causes and consequences of Gulf hypoxia is intended to provide scientific information that can be used to evaluate nutrient management strategies, and to identify gaps in our understanding of this problem. While the focus of the assessment will be on hypoxia in the Gulf of Mexico, the effects of changes in nutrient concentrations and loads and nutrient ratios on water quality conditions within the Mississippi-Atchafalaya riverine systems will also be addressed.

Under the leadership of CENR, a Scientific Evaluation and Support Committee (SESC) was formed to conduct the hypoxia science assessment. The SESC or "Hypoxia Work Group" is comprised of representatives from the following governmental organizations:

1. Dept. of Agriculture
2. Dept. of Commerce/National Oceanic & Atmospheric Administration [LEAD]
3. Dept. of Defense/Army Corps of Engineers
4. Dept. of Defense/Office of Naval Research
5. Dept. of Energy

6. Dept. of Health & Human Services/National Institute of Environmental Health Services
7. Dept. of Interior/Minerals Management Service
8. Dept. of Interior/U.S. Geological Survey
9. Dept. of State
10. Environmental Protection Agency
11. National Aeronautics and Space Administration
12. National Science Foundation
13. Smithsonian Institution

2. Approach and scope of the scientific assessment

2.1 The Mississippi watershed and hypoxia in the Gulf of Mexico

Seasonally severe and persistent hypoxia (low dissolved oxygen conditions) occurs on the continental shelf of the northern Gulf of Mexico to the west of the Mississippi River and Atchafalaya River deltas. The areal extent of the hypoxia zone has ranged from 16,000–18,000 km^2 since 1993 (Rabalais et al., in press). Hypoxia occurs below the pycnocline (layer where water density increases rapidly with depth) from as early as late February through early October, but it is most widespread, persistent and severe in June, July, and August (Rabalais et al., 1996).

There is spatial and temporal variability in the distribution of the hypoxia on the shelf which is, in part, related to the amplitude and timing of the Mississippi and Atchafalaya discharges. These waters originate in the vast Mississippi watershed which encompasses more than 40 percent of the area of the conterminous 48 states (Figure 2). Two-thirds of the flow from this system enters the Gulf through the Mississippi River while the remaining third enters through the Atchafalaya River. Together, these two rivers account for 90 percent of the fresh water inflow to the Gulf of Mexico (Rabalais et al., 1996).

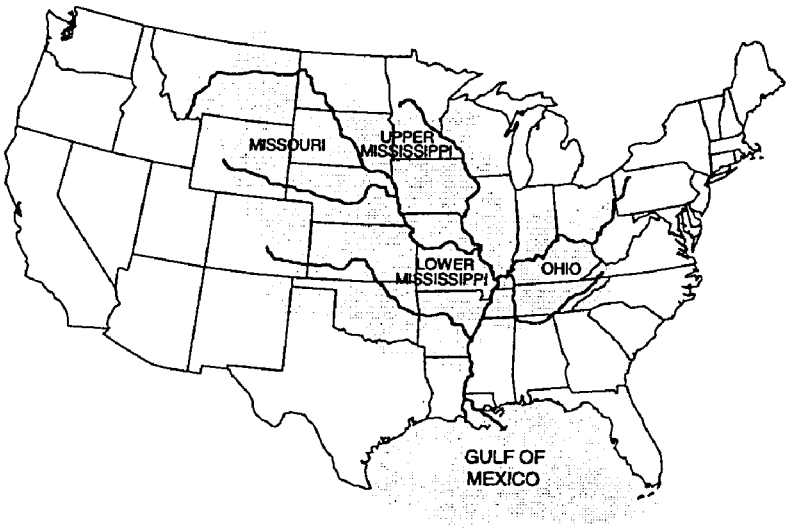


Figure 2. Mississippi River watershed.

The linkages between the freshwater inflow from the Mississippi/Atchafalaya River systems (and subsequent nutrient flux) and net surface productivity and bottom water oxygen deficiency have been established (Atwood et al., 1994; Justice et al., 1993; Rabalais et al., 1996). Freshwater discharge and nutrient flux from the Mississippi and Atchafalaya Rivers strongly influence the distribution and intensity of the hypoxia, along with water column stratification and mixing (Rabalais et al. 1991). Analyses of sediment cores from the Louisiana shelf in the Mississippi River delta bight indicate that the increased eutrophication and hypoxia seen in the northern Gulf of Mexico are related to increased nutrient loadings from the Mississippi River (Rabalais et al., 1996).

Nutrient loadings associated with eutrophication enter coastal marine systems via atmospheric, surface runoff, and groundwater pathways. Nutrient concentrations in

the Mississippi River have increased dramatically in this century, and have accelerated since 1950, coincident with increasing fertilizer usage (Turner and Rabalais, 1991). Factors such as tile drainage (technique used to drain excess soil moisture from agricultural lands) and other changes on the agricultural lands of the Midwest U.S., atmospheric deposition of nutrients from airsheds within and outside of the Mississippi watershed, nonpoint discharges from urban and suburban areas, and point discharges throughout the Mississippi Watershed and in the Gulf of Mexico all have contributed to increases in nutrients.

The nutrients delivered by the rivers and deposited directly in the Gulf of Mexico increase primary production and may also stimulate fish production locally in the Gulf. Carbon derived from this primary production sinks out of the upper water column, decomposes at depth, and leads to seasonally-severe oxygen depletion in the lower water column and at the seabed (Turner and Allen, 1982; Rabalais et al., 1991, 1992; Bierman et al., 1994; Justic et al. 1996, 1997). The oxygen-stressed bottom community is characterized by limited taxa, characteristic resistant fauna, and reductions in abundance, species richness and biomass. Effects of hypoxia on fishery resources include direct mortality, altered migration, reduction in suitable habitats, changes in food resources, increased susceptibility to predation, and disruption of life cycles including aspects of spawning, recruitment, and migration.

2.2 Scientific goal and approach

The goal of the hypoxia science assessment is to document the state of knowledge of the extent, characteristics, causes, and effects (both ecological and economic), of hypoxia in the northern Gulf of Mexico. The assessment will also compile existing information on nutrient sources, identify alternatives for reducing nutrient inputs, and examine the costs and benefits associated with reducing the nutrient loads. The assessment will build upon the outcomes of the December 1995 Louisiana Hypoxia Conference and related efforts that have brought together scientists, managers, and regulators to discuss the Gulf of Mexico hypoxia problem.

The effort will include a series of six interrelated reports, examining various aspects of the hypoxia issue. They will be developed by six teams with experts from within and outside government and will be reviewed by independent experts. The research teams will analyze existing data and will apply it to existing models of the watershed-gulf system to aid in identifying magnitudes of nutrient load reductions needed to effect a significant change in the extent and severity of the hypoxia. The teams will not conduct new research. However, if in the course of addressing these issues, researchers encounter obstacles due to the limitations of current understanding, they are encouraged to specifically identify what additional research or data would be needed to fill the gap. Results will be shared, as appropriate, among the teams to determine baseline boundaries, notably in topics where loadings estimates are related to responses. Once the individual topic papers are completed, they will be used to develop a final integrated assessment that will be used by the Task Force to evaluate alternative solutions to the hypoxia problem. The topic papers and integrated assessment will be subjected to a rigorous independent review. Public comments will be solicited and considered in both the topic paper and integrated assessment phases of the assessment process. Both the review process and public input are described in more detail in section 3 of this Plan.

The six topic papers will address the following:

Topic 1. Characterization of hypoxia: distribution, dynamics, and causes.—This report will describe seasonal, interannual, and long-term variation of hypoxia in the northern Gulf of Mexico, and its relationship to nutrient loadings. It will also document the relative roles of natural and human-induced factors in determining the size and duration of the hypoxic zone. Lead: Nancy Rabalais, Louisiana Universities Marine Consortium.

Topic 2. Ecological and economic consequences of hypoxia.—This report will evaluate the ecological and economic consequences of nutrient loading, including impacts on Gulf of Mexico fisheries and the regional and national economy. It will articulate both ecological and economic consequences and, to the extent appropriate, their interaction. Ecological co-lead: Robert Diaz, Virginia Institute of Marine Science. Economics co-lead: Andrew Solow, Woods Hole Oceanographic Institution, Center for Marine Policy.

Topic 3. Sources and loads of nutrients transported by the Mississippi River to the Gulf of Mexico.—This report will identify the sources of nutrients within the Mississippi/Atchafalaya system and within the Gulf of Mexico with two distinct components. The first is to identify where, within the basin, the most significant nutrient additions to the surface water system occur. The second, more difficult component, is estimating the relative importance of specific human activities in contributing to these loads. Lead: Donald Goolsby, U.S. Geological Survey.

Topic 4. Effects of reducing nutrient loads to surface waters within the basin and Gulf of Mexico.—This report will estimate the effects of nutrient source reductions in the Mississippi-Atchafalaya Basin on water quality in these waters and on primary productivity and hypoxia in the Gulf of Mexico. Modeling analyses will be conducted to aid in identifying magnitudes of load reductions needed to effect a significant change in the extent and severity of the hypoxia. Upper watershed co-lead: Patrick Brezonik, University of Minnesota. Gulf of Mexico co-lead: Victor Bierman, Limno-Tech.

Topic 5. Evaluation of methods to reduce nutrient loads to surface water, ground water, and the Gulf of Mexico.—The main focus of this report will be to identify and evaluate methods to reduce nutrient loads to surface water, ground water, and the Gulf of Mexico. The analysis will not be restricted to only reduction of sources. It will also include means to reduce loads by allowing the system to better accommodate those sources through, for example, modified hydraulic transport and internal cycling routes. Lead: William Mitsch, Ohio State University.

Topic 6. Evaluation of social and economic costs and benefits of methods (identified in topic #5) for reducing nutrient loads.—In addition to evaluating the social and economic costs and benefits of the methods identified in topic 5 for reducing nutrient loads, this analysis will include an assessment of various incentive programs and will include any anticipated fiscal benefits generated for those attempting to reduce sources. Lead: Otto Doering, Purdue University.

These six topics will be addressed in the context of the following relationships within the Mississippi River watershed and the northern Gulf of Mexico:

—the relationship between nutrient loads discharged at various places in the watershed and sub-watersheds of the Mississippi and the nutrient loads that appear in the mainstem and the relative contributions of point and nonpoint sources to the mainstem nutrient load;

—the relationship between these nutrient loads and the water quality of the Mississippi-Atchafalaya Basin;

—the relationship between the nutrient loads that are delivered to the mainstem and the loads that are delivered to the Gulf of Mexico;

—the relationship between nutrient loads delivered to the northern Gulf of Mexico from sources other than the Mississippi/Atchafalaya systems; and,

—the relationship between the nutrient loads delivered to Gulf of Mexico and the ecological responses and impacts (i.e., primary productivity, bottom hypoxia, ecological and economic effects).

2.3 Assessment process

In its early deliberations, the Hypoxia Work Group agreed on the six topics to be developed as outlined above, identified a point of contact in NOAA to lead/coordinate the overall effort, identified leaders for each of the topic paper teams, and recommended potential team members and reviewers for each topic paper. The Team Leads worked with these recommendations and their own ideas to construct teams of experts to address each topic. Team Leads then developed mini-proposals for each topic that were reviewed by the Hypoxia Work Group and were also reviewed by other Team Leads. The content and approaches to each topic paper were described and discussed at a meeting of the Team Leads and the Hypoxia Work Group in August 1997. At that workshop, participants identified linkages and noted where critical gaps existed among topics and determined an appropriate approach to complete an integrated assessment of the causes and consequences of Gulf hypoxia.

The Hypoxia Work Group coordinated with the Team Leads to estimate costs and to identify sources of funds and in-kind support. A second workshop of the Hypoxia Work Group and Team Leads was held in October 1997, where final adjustments were made to the proposals, the proposals were approved, and the review process outlined. The Hypoxia Work Group convenes periodic workshops (about every 2–3 months) to monitor progress of the assessment, resolve issues between teams, and recommend mid-course adjustments as necessary.

All six proposals were initially reviewed by the interagency Hypoxia Work Group that was formed by the CENR to oversee the assessment, and by the five team leads for the other six reports in the series. The proposals were revised according to the Work Group and team lead comments, and were approved at the second meeting of the Work Group in October 1997.

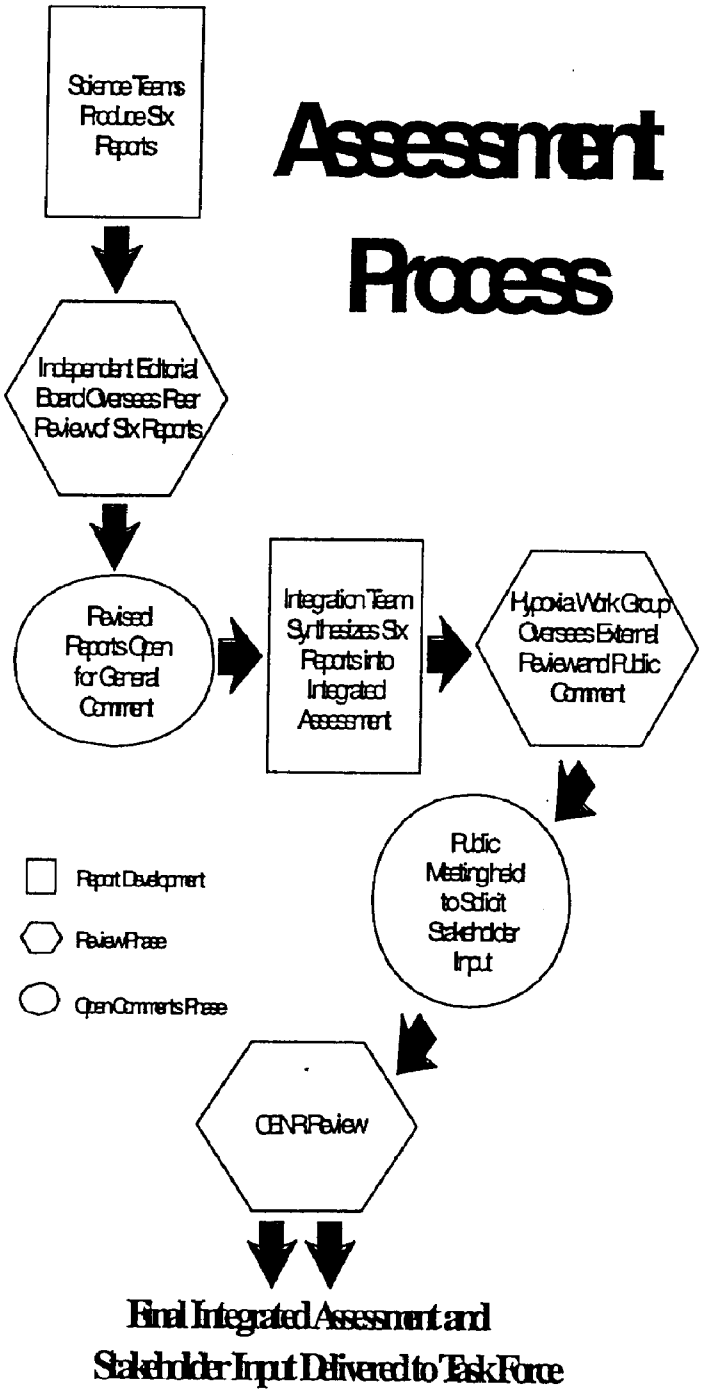
The topic papers and all other related products and reports will be provided in electronic and hardcopy form to the Gulf of Mexico Program Office copies to NOAA's Coastal Ocean Program Office. Review and oversight of the development of each topic paper will be through several steps: a review of the outline of the report, a presentation of initial findings to the Hypoxia Work Group, and a review of the draft report. The Hypoxia Work Group will review and recommend adjustments on

the outlines in coordination with the Team Leads. Drafts of each report will be subjected to a rigorous independent peer-review facilitated by an independent Editorial Board.

The primary and ultimate target audience for the integrated assessment is the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, currently led by EPA, and composed of senior management officials from State agencies and Tribal organizations as well as the following Federal Agencies:

—Environmental Protection Agency
—Department of Agriculture
—Department of Defense/Army Corps of Engineers
—Department of Commerce/National Oceanic and Atmospheric Administration
—Department of the Interior
—Department of Justice
—White House Office of Science and Technology Policy

The six individual reports, to be completed by fall/winter 1998, will be used to develop the final integrated assessment that will be used by the Task Force to evaluate alternative solutions. The Integration Team will be selected by the Hypoxia Work Group and will be composed of the assessment team leads and additional government and academic experts where necessary. A diagram that outlines the basic steps of the assessment process is shown in Figure 3. Specific detail on the review process, public and stakeholder input, and the functions of the Editorial Board are provided in Section 3 of this Plan.


Assessment Process
Science Teams Produce Six Reports
Independent Editorial Board Oversees Peer Review of Six Reports
Revised Reports Open for General Comment
Integration Team Synthesizes Six Reports into Integrated Assessment
Hypoxia Work Group Oversees External Review and Public Comment
Public Meeting held to Solicit Stakeholder Input
CENR Review
Report Development
Review Phase
Open Comments Phase
Final Integrated Assessment and Stakeholder Input Delivered to Task Force

3. Renew process

3.1 Review of the Six Topic Papers

The Hypoxia Work Group will select an Editorial Board to facilitate review and revision of the first six reports. The Editorial Board will be volunteer, independent, and composed of individuals who are considered experts in related fields, and will be selected by the Hypoxia Work Group from nominations provided by the Task Force and other organizations.

The Editorial Board will work with the Hypoxia Work Group to select reviewers for the six team reports. The draft reports will be sent out for review and the results will be returned to the Hypoxia Work Group which will distribute them to the Editorial Board and the authors. The authors will modify their papers and otherwise respond to the reviews. Lead authors will be required to document in writing their rationale for incorporating or rejecting each significant comment received from reviewers. The Editorial Board will then be asked to compare the review comments and revisions to insure that the review comments have been addressed. If the comments are adequately addressed, the topic paper will be considered complete. If the comments require further revision, the Editorial Board members will serve as brokers between the lead authors and reviewers to ensure that recommended changes are addressed.

3.2 Review of the Integrated Assessment

When the Integration Team completes a draft of the Integrated Assessment, the Hypoxia Work Group will oversee an external review and public comment period. The Hypoxia Work Group, or designated federal personnel will be responsible for developing any recommendations based on the findings and public comments on the integrated assessment. Once the Integrated Assessment is acceptable to the Hypoxia Work Group, it will be delivered to the full CENR for review. It will be the responsibility of the Hypoxia Work Group, using whatever means necessary, to respond to the CENR comments.

3.3 Public input

Public input plays a critical role in the policy process. It was public concern and action, in fact, that brought national attention to the problem of hypoxia in the Gulf of Mexico and prompted CENR to undertake this scientific assessment. The CENR Hypoxia Assessment process has been designed to both keep the public informed and involved while ensuring accuracy and objectivity of the information that it provides. Thus, the reports will be developed by specialists, subject to rigorous peer review, then made available for public comment. Public input will be solicited via the World Wide Web as the final individual topic papers are completed.

Once all the topic papers are complete, the written public comments will be included with them and given to the Integration Team. The Integration Team will address the public comments in the preparation of the Integrated Assessment. The six topic papers will also be made available at public meetings and other fora. Once the Integrated Assessment is complete, it will be made available for public comment. A public workshop (or series of workshops) will be held to obtain stakeholder input to the Integrated Assessment. Results of the workshop will be summarized and included as a part of the final Integrated Assessment.

4. Timeline

4.1 Topic papers

The individual topic papers will be completed by fall/winter 1998. Schedules for these and intermediate steps are as follows:

	Topic					
	1	2	3	4	5	6
Start date	1/98	2/98	10/97	2/98	2/98	1/98
Outline complete	3/98	5/98	3/98	4/98	3/98	6/98
Present findings	([1])	([1])	([1])	([1])	([1])	([1])
Draft ready for review	7/98	9/98	8/98	9/98	6/98	9/98
Review complete	9/98	11/98	10/98	11/98	8/98	11/98
Final report	10/98	12/98	11/98	12/98	9/98	12/98

[1] TBD.

4.2 Integrated assessment

Initial synthesis and organization of the integrated assessment will begin in fall 1998 beginning with the results of topic papers that are complete at that time. A draft of the integrated assessment may be ready for review as early as winter 1998/99, though the actual schedule will be determined by the Hypoxia Work Group once the individual topic papers are completed. The review and revision periods for the draft integrated assessment will also be determined by the Hypoxia Work Group. Once complete, the final integrated assessment will be delivered to the Task Force.

5. References

Atwood, D.K., A. Bratkovich, M. Gallagher, and G. Hitchcock (eds.) 1994. Papers from NOAA's Nutrient Enhanced Coastal Ocean Productivity Study—Special Dedicated Issue. "Estuaries" 17(4):729–911.

Bierman, V.J., S.C. Hinz, W.J. Wiseman, Jr., N.N. Rabalais, and R.E. Turner. 1994. A preliminary mass balance model of primary productivity and dissolved oxygen in the Mississippi River plume/inner gulf shelf region. "Estuaries" 17: 886–899.

Diaz, R.J., and R. Rosenberg. 1995. Marine benthic hypoxia: a review of its ecological effects and the behavioral responses of benthic macrofauna. "Oceanography and Marine Biology: An Annual Review." Vol. 33:245–303.

Justic, D., N.N. Rabalais, R.E. Turner and W.J. Wiseman, Jr. 1993. Seasonal coupling between riverborne nutrients, net productivity and hypoxia. "Marine Pollution Bulletin" 26(4): 184–189.

Justic, D., N.N. Rabalais, and R.E. Turner. 1996. Effects of climate change on hypoxia in coastal waters: A doubled CO_2 scenario for the northern Gulf of Mexico. "Limnology and Oceanography" 41(5):992–1003.

Justic, D., N.N. Rabalais and R.E. Turner. 1997. Impacts of climate change on net productivity of coastal waters: implications for carbon budgets and hypoxia. "Climate Research" 8:225–237.

Ortner, P.B., and M.J. Dagg. 1995. Nutrient-enhanced coastal ocean productivity explored in the Gulf of Mexico. "Trans. Amer. Geophys. Union" 76(10).

Rabalais, N.N., R.E. Turner, W.J. Wiseman, Jr., and Q. Dortch. 1997. Consequences of the 1993 Mississippi River Flood in the Gulf of Mexico. "Regulated Rivers" (in press).

Rabalais, N.N., R.E. Turner, D. Justic, Q. Dortch, W.J. Wiseman, Jr., and B.K. Sen Gupta. 1996. Nutrient changes in the Mississippi River and system responses on the adjacent continental shelf. "Estuaries" 19:286–407.

Rabalais, N.N., R.E. Turner, and W.J. Wiseman, Jr. 1992. Distribution and characteristics of hypoxia on the Louisiana shelf in 1990 and 1991, pp. 15–20. In Nutrient Enhanced Coastal Ocean Productivity. Publication number TAMU–SG–92–109, Sea Grant Program, Texas A & M University, Galveston, Texas.

Rabalais, N.N., R.E. Turner, and W.J. Wiseman, Jr., and D.F. Boesch. 1991. A brief summary of hypoxia on the northern Gulf of Mexico continental shelf: 1985–1988, pp. 35–47. In: R.V. Tyson and T.H. Pearson (eds.), Modern and Ancient Shelf Anoxia. Geological Society Special Publication No. 58. London.

Turner, R.E. and R.L. Allen. 1982. Bottom water oxygen concentrations in the Mississippi River Delta Bight. "Contributions in Marine Science" 25: 161–172.

Turner, R.E., and N.N. Rabalais. 1991. Changes in Mississippi River water quality this century: implications for coastal food webs. "BioScience" 41:140–147.

TABLE 1

SUMMARY OF COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES (CENR) RESEARCH FUNDING

TOPIC NUMBER & TITLE	RECIPIENT	FUNDING	STATUS
#1 -Characterization of Hypoxia	Louisiana Universities Marine Consortium	$61,828 GMPO	Awarded Dec 15, 1997
#2A-Ecological Consequences of Hypoxia	Virginia Institute of Marine Science	$62,600 GMPO	Awarded Dec 15, 1997
#2B -Economic Consequences of Hypoxia	Woods Hole Oceanographic Inst.	$44,500 NOAA	Awarded Feb 12, 1998
#3 -Sources and Loads of Nutrients	USGS In-House	$150,000 USGS	Funded directly by USGS
#4 -Effects of Nutrient Source Reductions	University of Minnesota	$99,623 GMPO USDA EPA/OW	Awarded Feb 12, 1998
#5 -Evaluation of Methods to Reduce Nutrient Loads	Ohio State University	$93,381 NOAA EPA/ORD	Awarded Feb 12, 1998
#6 -Evaluation of Costs and Benefits of Reduction Methods	Purdue University	$50,000 USDA	Funded directly by USDA

TABLE 2.—SUMMARY OF FEDERAL AGENCY FUNDING FOR CENR HYPOXIA ASSESSMENT

	Direct support of teams	Scientific and other support staff
EPA	$234,000	$194,000
NOAA	112,900	255,000
USGS	150,000	.....
USDA	65,000	60,000
COE	.....	10,000
Total	561,900	519,000

SMALL BUSINESS COMPLIANCE ASSISTANCE EFFORTS

Question. On April 28, the Senate Committee on Small business held a hearing on Environmental Compliance Tools for Small Business. Witnesses placed great importance on compliance assistance programs ensuring the confidentiality of the information shared or discovered through the compliance assistance and of the source of the compliance assistance inquiry. Please describe EPA's policy regarding confidential treatment of the information exchange and the identity of small businesses seeking assistance from EPA's numerous hotlines, clearinghouses, Compliance Assistance Centers, Section 507 Small Business Assistance Program and other compliance assistance efforts.

Answer. EPA has a strong commitment to providing compliance assistance to small businesses who contact the Agency's hotlines, clearinghouses and program experts located throughout EPA headquarters and regional offices. It is the Agency's policy and practice that these callers requesting compliance assistance may choose to remain anonymous. This means that the caller is not required to provide any information, such as his name, phone number, address or any other identifying information to the hotline staff in order to obtain the assistance he seeks.

Compliance Assistance Centers, established in partnership with industry, academic institutions, and environmental groups, also allow callers to remain anonymous.

EPA does not determine the practices of the Section 507 Clean Air Act Small Business Assistance Programs, which are developed and operated by the states. EPA believes that any policies concerning anonymity or confidentiality would vary by state. EPA does have a policy that applies to information obtained by state agencies during the course of delivering compliance assistance. The policy, called the Enforcement Response Policy for Treatment of Information Obtained Through Clean Air Act Section 507 Small Business Assistance Programs, allows a small business assistance program, if independent of the delegated state air enforcement program, to keep confidential information that identifies the names and locations of specific small businesses with violations revealed through compliance assistance.

SIP: MOBILE SOURCE CATEGORY

Question. On April 28th, Mr. Benjamin Y. Cooper with the Printing Industries of America recommended that EPA provide State Implementation Plan credits for Section 507 programs and other small business compliance assistance activities. The credits would be based on good faith estimates of emission reductions to result from the various compliance assistance efforts.

With credits already provided for the mobile source category, are there any legal impediments to providing such credits for compliance assistance programs?

If the credits are applied to sources that are not identified as having federally enforceable permits, would any reductions gain be considered excess emission credits?

Under the present system, what is your level of confidence in the accuracy of estimated emissions for areas sources contained in State Implementation Plans?

Does the Masters Printers Program in Massachusetts provide any lessons that could be used to derive evaluation techniques for the SIP credit recommendation?

Answer. For purposes of responding to this question, EPA assumes that "credits" refers to emission reduction credits given for purposes of demonstrating attainment or rate of progress.

There are legal impediments to providing State Implementation Plan (SIP) credits for compliance assistance programs. It is not within the scope or intent of the Clean Air Act (CAA) to directly provide emission reduction credits for compliance assistance. The purpose of compliance assistance is to bring small businesses into compliance with the underlying standard.

However, if sources are willing to voluntarily take on emission limitations, we could give credit for demonstrated emission reductions. In order to receive credit for reductions of National Ambient Air Quality Standards (NAAQS) pollutants, emission rate requirements must be enforceable through a permit or other means.

Emission Inventories are compilations of emission estimates for sources in a specific geographic area such as an urban or metropolitan area or an entire state. These inventories allow air quality planners to account for the air pollution coming from different sectors (automobiles, industries, consumers, etc.) And to prepare plans for reducing emissions from specific sectors or source categories to improve air quality to acceptable levels.

Emission inventories are composed of:

—(1) point or major sources (e.g., power plants or manufacturing industries)

—(2) stationary area sources (e.g., landfills or windblown dust)

—(3) on-road mobile sources (e.g., automobiles and trucks)

—(4) non-road mobile sources (e.g., construction equipment and boats)

—(5) biogenic sources (e.g., forests)

The highest confidence in emission estimates is in the point or major sources because of the greater focus on these sources in the past and the larger amount of test data available for such sources. The next highest level of confidence is in estimates of emissions from on-road mobile sources because of recent focus on these sources and on the relative accuracy of the MOBILE model and available activity data (vehicle miles traveled for roadways). Next would be stationary area and non-road mobile sources.

While much work has been done to improve our understanding of emissions from all of these categories, emissions from stationary area and non-road mobile sources need the most work. There is a growing recognition of their contribution to air quality exceedences and much work remains to be done in order to improve our confidence in these estimates. Because of the complexity of many of these sources, we need to prepare emission models similar to the MOBILE model to account for the parameters that have the greatest impact on their emissions and we need to identify better sources of information on activity levels (e.g., amount of boat traffic along rivers and tributaries). The use of ambient air measurements will also help us to improve our understanding of and confidence in these emission estimates.

In response to the final question, EPA has learned some lessons from the Massachusetts Printing Partnership (MPP) that could be transferred to a SIP credit program. For example, one way to calculate the impact of compliance assistance activities on emissions in the printing industry is to take a random-sample of chemical use at printing facilities and look at changes over time. The MPP program did this and calculated a 2,000 lb. reduction in VOC's that resulted from their program.

COMPLIANCE ASSISTANCE CENTERS

Question. Please explain what ongoing assistance and financial support EPA plans to provide the original four compliance assistance centers to ensure that each center is viable.

Answer. The Compliance Assistance Centers Program is a reinvention initiative to provide regulated entities with easy access to environmental compliance information that is plain-language, sector-specific, and covers all environmental media. Information is provided through "virtual" means such as Internet web-sites, e-mail discussion groups, fax-back systems and toll-free numbers. Compliance Assistance Centers are developed through partnerships between EPA and the industry partners that represent the sectors served. In this partnership EPA offers credibility and industry brings access to clients.

In addition, the Centers have coordinated with the states to assist them in their outreach efforts to industry, to facilitate their delivery of sector-specific regulatory information, to serve as the delivery mechanism for their pollution prevention and compliance assistance materials, and to build their capacity to meet the environmental needs of the businesses in their states and localities.

Given the partnership nature of this program and limited resources, EPA has asked that the Centers, which are funded through cooperative agreements, attempt to move towards self-sustainability over a multi-year period. For those Centers whose primary audience is small businesses, EPA expects that if the industry served values the services of the Center, they will contribute to its long-term sustainability. We recognize that achieving financial sustainability is an incremental process that will take some time to achieve. Therefore EPA has decided to incrementally fund each of the original four Centers to help account for the shortfall between their actual annual operational costs and the funds raised from outside sources. Under this scenario, the Federal contribution will decrease over time as the partner contribution increases.

The workplans for the remaining five centers will be reviewed as their present funding nears its end. As far as possible the approach will be the same as the original four; move towards long-term self-sustainability. However, for the Centers whose primary audience are states and local governments (Printers, Agriculture, and Local Governments centers), EPA realizes that the ability of these groups to raise funds is more limited and therefore EPA will continue requesting funding for these Centers as necessary.

QUESTIONS SUBMITTED BY SENATOR BURNS

PM: VISIBILITY MONITORS CLASS I AREAS

Question. How many visibility monitors are now deployed in and around our mandatory class I Federal areas?

Answer. There are currently 58 class I areas that have monitoring to measure PM–2.5 concentrations for visual air quality and other related data. A little over half of these monitoring sites (30) are part of the Interagency Monitoring of Protected Visual Environments (IMPROVE) network. The remaining sites are what we call "protocol" sites. They are operated by the Federal Land Managers and follow the same IMPROVE data collection and analysis protocols.

Question. Where are they? In what States? In what mandatory class I Federal areas?

Answer. See attachment for the States and mandatory class I Federal areas.

Question. What types of data do they collect?

Answer. The IMPROVE sites collect a variety of visibility related data: aerosol (PM–2.5 and PM–10 mass and chemical composition), optical (light extinction and light scattering), and scene (35 mm photography). The "protocol" sites in some cases may not have the full suite of measurements. Standard techniques are used to calculate visual air quality (expressed in terms of light extinction, visual range, and deciviews) from aerosol data collected from each site.

FEDERAL CLASS I AREAS SHOWING STATUS OF MONITORING CODES

[No Monitoring = 0; Improve = 1; Protocol = 2]

Land manager	State	Name	Code
FWS	AK	Bering Sea	0
Nat'l Park Ser	AK	Denali Preserve NP	1
FWS	AK	Simeonof	0
FWS	AK	Tuxedni	0
Forest Service	AL	Sipsey Wilderness	1
Forest Service	AR	Caney Creek Wilderness	0
Forest Service	AR	Upper Buffalo Wilderness	1
Nat'l Park Ser	AZ	Chiricahua NM	1
Forest Service	AZ	Chiricahua Wilderness	0
Forest Service	AZ	Galiuro Wilderness	0
Nat'l Park Ser	AZ	Grand Canyon NP	1
Forest Service	AZ	Mazatzal Wilderness	0
Forest Service	AZ	Mount Baldy Wilderness	0
Nat'l Park Ser	AZ	Petrified Forest NP	2
Forest Service	AZ	Pine Mountain Wilderness	0
Nat'l Park Ser	AZ	Saguaro NM	2
Forest Service	AZ	Sierra Ancha Wilderness	0
Forest Service	AZ	Superstition Wilderness	1
Forest Service	AZ	Sycamore Cany. Wild.	0
Forest Service	CA	Agua Tibia Wilderness	0
Forest Service	CA	Caribou Wilderness	0
Forest Service	CA	Cucamonga Wilderness	0
Forest Service	CA	Desolation Wilderness	2
Forest Service	CA	Dome Land Wilderness	2
Forest Service	CA	Emigrant Wilderness	0
Forest Service	CA	Hoover Wilderness	0
Forest Service	CA	John Muir Wilderness	0
Nat'l Park Ser	CA	Joshua Tree NM	0
Forest Service	CA	Kaiser Wilderness	0
Nat'l Park Ser	CA	Kings Canyon NP	0
Nat'l Park Ser	CA	Lassen Volcanic NP	2
Nat'l Park Ser	CA	Lava Beds NM	0
Forest Service	CA	Marble Mountain Wild.	0
Forest Service	CA	Minarets Wilderness	0
Forest Service	CA	Mokelumne Wilderness	0
Nat'l Park Ser	CA	Pinnacles NM	2
Nat'l Park Ser	CA	Point Reyes NS	2
Nat'l Park Ser	CA	Redwood NP	2
Forest Service	CA	San Gabriel Wilderness	0
Forest Service	CA	San Gorgonio Wilderness	1
Forest Service	CA	San Jacinto Wilderness	0
Forest Service	CA	San Rafael Wilderness	0
Nat'l Park Ser	CA	Sequoia NP	2
Forest Service	CA	South Warner Wilderness	0
Forest Service	CA	Thousand Lakes Wild.	0
Forest Service	CA	Ventana Wilderness	0
Forest Service	CA	Yolla Bolly Middle Eel Wilderness	0

FEDERAL CLASS I AREAS SHOWING STATUS OF MONITORING CODES—Continued

[No Monitoring = 0; Improve = 1; Protocol = 2]

Land manager	State	Name	Code
Nat'l Park Ser	CA	Yosemite NP	1
Nat'l Park Ser	CO	Black Canyon of the Gunnison NM	0
Forest Service	CO	Eagles Nest Wilderness	0
Forest Service	CO	Flat Tops Wilderness	0
Nat'l Park Ser	CO	Great Sand Dunes NM	2
Forest Service	CO	La Garita Wilderness	0
Forest Service	CO	Maroon Bells-Snowmass Wilderness	0
Nat'l Park Ser	CO	Mesa Verde NP	1
Forest Service	CO	Mount Zirkel Wilderness	2
Forest Service	CO	Rawah Wilderness	0
Nat'l Park Ser	CO	Rocky Mountain NP	1
Forest Service	CO	Weminuche Wilderness	1
Forest Service	CO	West Elk Wilderness	0
FWS	FL	Chassahowitzka	2
Nat'l Park Ser	FL	Everglades NP	2
FWS	FL	St. Marks	0
Forest Service	GA	Cohutta Wilderness	0
FWS	GA	Okefenokee	1
FWS	GA	Wolf Island	0
Nat'l Park Ser	HI	Haleakala NP	2
Nat'l Park Ser	HI	Hawaii Volcanoes NP	0
Nat'l Park Ser	ID	Craters of the Moon NM	2
Forest Service	ID	Hells Canyon Wilderness	0
Forest Service	ID	Sawtooth Wilderness	2
Forest Service	ID	Selway-Bitterroot Wilderness	2
Nat'l Park Ser	KY	Mammoth Cave NP	1
FWS	LA	Breton	0
Nat'l Park Ser	ME	Acadia NP	1
FWS	ME	Moosehorn	2
Nat'l Park Ser	MI	Isle Royale NP	0
FWS	MI	Seney	0
Forest Service	MN	Boundry Waters Canoe Area	1
Nat'l Park Ser	MN	Voyageurs NP	2
Forest Service	MO	Hercules-Glades Wilderness	0
FWS	MO	Mingo	0
Forest Service	MT	Anaconda-Pintler Wilderness	0
Forest Service	MT	Bob Marshall Wilderness	0
Forest Service	MT	Cabinet Mountains Wilderness	0
Forest Service	MT	Gates of the Mountains Wilderness	0
Nat'l Park Ser	MT	Glacier NP	1
FWS	MT	Medicine Lake	0
Forest Service	MT	Mission Mountains Wilderness	0
FWS	MT	Red Rock Lakes	0
Forest Service	MT	Scapegoat Wilderness	0
FWS	MT	UL Bend	0
Forest Service	NC	Joyce-Kilmer-Slickrock Wilderness	0
Forest Service	NC	Linville Gorge Wilderness	0
Forest Service	NC	Shining Rock Wilderness	1
FWS	NC	Swanquarter	0
FWS	ND	Lostwood	0
Nat'l Park Ser	ND	Theodore Roosevelt NP	0
Forest Service	NH	Great Gulf Wilderness	2
Forest Service	NH	Presidential Range-Dry River Wilderness	0
FWS	NJ	Brigantine	1
Nat'l Park Ser	NM	Bandelier NM	2

FEDERAL CLASS I AREAS SHOWING STATUS OF MONITORING CODES—Continued

[No Monitoring = 0; Improve = 1; Protocol = 2]

Land manager	State	Name	Code
FWS	NM	Bosque del Apache	0
Nat'l Park Ser	NM	Carlsbad Caverns NP	0
Forest Service	NM	Gila Wilderness	2
Forest Service	NM	Pecos Wilderness	0
FWS	NM	Salt Creek	0
Forest Service	NM	San Pedro Parks Wilderness	0
Forest Service	NM	Wheeler Peak Wilderness	0
Forest Service	NM	White Mountain Wilderness	0
Forest Service	NV	Jarbridge Wilderness	1
FWS	OK	Wichita Mountains	0
Nat'l Park Ser	OR	Crater Lake NP	1
Forest Service	OR	Diamond Peak Wilderness	0
Forest Service	OR	Eagle Cap Wilderness	0
Forest Service	OR	Gearhart Mountain Wilderness	0
Forest Service	OR	Kalmiopsis Wilderness	0
Forest Service	OR	Mount Hood Wilderness	0
Forest Service	OR	Mount Jefferson Wilderness	0
Forest Service	OR	Mt. Washington Wilderness	0
Forest Service	OR	Mountain Lakes Wilderness	0
Forest Service	OR	Strawberry Mountain Wilderness	0
Forest Service	OR	Three Sisters Wilderness	2
FWS	SC	Cape Romain	1
Nat'l Park Ser	SD	Badlands NP	2
Nat'l Park Ser	SD	Wind Cave NP	0
Nat'l Park Ser	TN	Great Smoky Mount. NP	1
Nat'l Park Ser	TX	Big Bend NP	1
Nat'l Park Ser	TX	Guadalupe Mountains NP	2
Nat'l Park Ser	UT	Arches NP	0
Nat'l Park Ser	UT	Bryce Canyon NP	1
Nat'l Park Ser	UT	Capitol Reef NP	0
Nat'l Park Ser	UT	Canyonlands NP	1
Nat'l Park Ser	UT	Zion NP	0
Forest Service	VA	James River Face Wilderness	2
Nat'l Park Ser	VA	Shenandoah NP	1
Nat'l Park Ser	VI	Virgin Islands NP	2
Forest Service	VT	Lye Brook Wilderness	1
Forest Service	WA	Alpine Lake Wilderness	0
Forest Service	WA	Glacier Peak Wilderness	0
Forest Service	WA	Goat Rocks Wilderness	0
Forest Service	WA	Mount Adams Wilderness	0
Nat'l Park Ser	WA	Mount Rainier NP	1
Nat'l Park Ser	WA	North Cascades NP	0
Nat'l Park Ser	WA	Olympic NP	0
Forest Service	WA	Pasayten Wilderness	0
Forest Service	WV	Dolly Sods Wilderness	1
Forest Service	WV	Otter Creek Wilderness	0
Forest Service	WY	Bridger Wilderness	1
Forest Service	WY	Fitzpatrick Wilderness	0
Nat'l Park Ser	WY	Grand Teton NP	0
Forest Service	WY	North Absaroka Wilderness	0
Forest Service	WY	Teton Wilderness	0
Forest Service	WY	Washakie Wilderness	0
Nat'l Park Ser	WY	Yellowstone NP	2
Canada/US		Roosevelt Campobello	0

Totals by code:

No site	98
IMPROVE	30
Protocol	28777

PM: COST OF VISIBILITY MONITORS

Question. What does it cost to install a visibility monitor on average?

Answer. Purchase and deployment cost is $20,000 per site.

Question. What does it cost to operate one of these monitors each year?

Answer. The Federal Land Managers (NPS, FS and FWS) provide the field personnel to operate the monitors at an approximate cost of $5,000 per site. The operation cost to EPA and the States is zero.

Question. What does it cost to analyze and store the data from a visibility monitor each year?

Answer. Filter procurement and laboratory analysis is $30,000 per site for a total of $900,000 per year for the 30 site IMPROVE network. An additional $12,000 per site or $350,000 national total per year provides support for data analysis, storage and quality assurance.

Question. How much of these costs are paid by EPA and how much by the States?

Answer. 100 percent of the costs are paid by EPA and none by the States.

PM: ADDITIONAL VISIBILITY MONITORS

Question. How many additional visibility monitors does EPA plan to deploy?

Answer. EPA plans to deploy an additional 78 sites in or near Federal class I areas. Twenty additional sites will be established in 1998 and the other 58 in 1999. The existing 30 IMPROVE monitors will also be upgraded to new equipment standards. In total, the expanded IMPROVE network will consist of 108 monitors.

Question. Where will they be located? In what States? In what mandatory class I Federal areas?

Answer. The locations of the first 20 sites are currently under discussion among the Federal Land Managers and the States. A list of 30 candidate class I Areas for new 1998 monitoring has been prepared. See BUR-Attachment B.

Question. Will they collect the same types of data as the current monitors?

Answer. Current plans and funding only allow for aerosol monitoring. The new aerosol measurements will utilize an upgrade to the existing IMPROVE sampler which will facilitate more frequent data collection while maintaining consistency with the historical measurements. Standard techniques are used to calculate visual air quality (expressed in terms of light extinction, visual range, and deciviews) from aerosol data collected from each site.

Question. Will the costs for new monitors be the same as for existing monitors? If not, what are the differences?

Answer. The procurement cost for new monitors will be slightly higher than the older costs. This reflects technology upgrades in addition to costs associated with inflation.

Question. How much of these costs are paid by EPA and how much by the States?

Answer. One hundred percent of the cost will be paid by EPA.

Question. How much of these funds for existing and future monitors are reflected in EPA's budget request fiscal year 1999?

Answer. The fiscal year 1999 budget request reflects 100 percent of the cost to analyze and store data from the 1999 operational network and to establish new 58 sites in 1999.

ATTACHMENT B

List of 30 Candidate Class I Areas for 1998 IMPROVE Deployment

The following list is the result of a selection process by the Forest Service, National Park Service, and Fish and Wildlife Service which met on January 29th to review sites for consideration for the expanded IMPROVE monitoring in scheduled for 1998. One of the primary basis for selecting the sites listed below was to fill geographic gaps in the current aerosol monitoring program. Sites are organized by FLM and represent each FLM's top 10 priority list.

ATTACHMENT B.—LIST OF 30 CANDIDATE CLASS I AREAS FOR 1998 IMPROVE DEPLOYMENT

FEW	NPS	FS
Breton, LA	Theodore Roosevelt, ND	Eagle Cap, OR.
St Marks, FL	North Cascades, WA	Sawtooth, WA.
Mingo, MO	Joshua Tree, CA	Cohutta, GA.
Witchita Mount., OK	Guadalupe Mountains, TX	Great Gulf, NH.
Bosque del Apache, NM	Capital Reef, UT	San Gabrial, CA.
Seney, MI	Bad Lands, SD	Anaconda-Pintler, MT.
Tuxedni, AK	Grand Tetons, WY	Bridger, WY.
Swanquarter, NC	Petrified Forest, AZ	Wheeler Peak, NM.
UL Bend, MT	Zion, UT	Mt. Hood, OR.
Salt Creek, NM	Olympic, WA	Sycamore Canyon, AZ.

REGIONAL HAZE: VISIBILITY RESEARCH SPENDING

Question. To what extent has EPA coordinated the dissemination of visibility and PM–2.5 monitors?

Answer. EPA recognizes the importance in coordinating the monitoring networks for visibility and PM–2.5. Visibility impairment in class I areas is caused primarily by fine particles. Measurements of fine particles in class I and rural areas can help characterize the regional transport of fine particles. The visibility aerosol monitor (called the IMPROVE PM–2.5 sampler) is very comparable to the PM2.5 Federal Reference Method (FRM) monitor which will be utilized in the new PM2.5 network. In fact, the PM–2.5 monitoring regulations provide for coordination between the two networks by allowing the States to use the IMPROVE PM2.5 sampler in lieu of the PM–2.5 FRM at regional background/transport monitoring sites (2 required per State). This allows the visibility monitors to provide background and regional transport information to the PM–2.5 program in a format which is comparable to the PM–2.5 aerosol measurements.

EPA Regional Offices are working closely with the States to coordinate the development and review of PM–2.5 network designs; an important component of which is regional transport and regional background monitoring, with existing and potential new IMPROVE visibility monitoring site locations.

Furthermore, EPA chairs the Interagency IMPROVE Steering Committee which oversees the development of the nation's visibility network. This committee consists of representatives of State agencies, Federal Land Management Agencies, EPA, and NOAA. All parties are working very closely to meet their mutual needs for PM–2.5 and visibility monitoring. EPA has an interagency agreement with the National Parks Service. Through this cooperative mechanism, together with the advice and oversight of the Interagency IMPROVE Steering Committee, visibility monitors are procured and deployed in the field; and data are collected, analyzed and disseminated.

Question. How can the visibility monitors be used to provide background data for the PM–2.5 network?

Answer. The visibility aerosol monitor (called the IMPROVE PM2.5 sampler) is very comparable to the PM–2.5 Federal Reference Method (FRM) monitor which will be utilized in the new PM–2.5 network. In fact, the PM2.5 monitoring regulations allow the States to use the IMPROVE PM–2.5 sampler in lieu of the PM–2.5 FRM at regional background/transport monitoring sites (2 required per State). This allows the visibility monitors to provide background and regional transport information to the PM–2.5 program in a format which is comparable to the PM–2.5 aerosol measurements.

Question. How much value is lost to the PM–2.5 network if visibility monitors are used as background sites?

Answer. The IMPROVE visibility monitors are located in rural, remote areas of the country which are ideal to characterize regional background concentrations. Therefore, the IMPROVE monitors represent an important and integral part of the national PM monitoring network and that their use as background sites obviates the need for funding other monitors for essentially the same purpose. They also provide important supplementary information regarding regional transport.

Question. What can be learned about visibility from the PM–2.5 monitors?

Answer. Visibility-related information can be derived from PM–2.5 monitors. Fine particles are principally responsible for visibility impairment and a statistical relationship exists between fine particle mass and light extinction. In addition, all PM–

2.5 monitors permit at least limited chemical speciation. Speciated data provides a basis for developing reliable estimates of seasonal and annual average visibility conditions. Accordingly, the dense network of PM–2.5 monitors which is currently under development will help identify the extent of regional haze and contributing sources. Although the monitors will largely be located in urban areas, the trends in urban air quality and related urban visibility will help track reductions in regional emissions which are responsible for impairment of visual range in rural areas. In addition, many of the PM–2.5 network's regional transport and regional background monitors are expected to provide the capability for full chemical speciation. This will supplement the characterization of particles in rural areas which affect visual range.

REGIONAL HAZE: VISIBILITY RESEARCH SPENDING

Question. How much money has EPA spent on visibility research since 1990? Pleas break down your estimate by:

—calendar year starting with 1991 and provide separate line items for Project MOHAVE, the Grand Canyon Visibility Transport Commission, and each of the other mandatory class I Federal areas. State in a two dimensional matrix showing how much was spent on each of the six factors listed in § 169B(a) in each air shed containing mandatory class I Federal areas.

Answer. Best estimates for visibility research since 1990 are:

By Calendar year

1991: Project MOHAVE: $2,766,000.—Visibility Monitoring for all Class I areas: $500,000; Contribution to National Academy of Sciences review of Visibility Science $100,000.

1992: Project MOHAVE: $724,000.—Visibility Monitoring for all Class I areas: $1,000,000; Castnet Visibility Monitors: $207,000; Inter-Agency Workgroup on Air Quality Modeling: $700,000.

1993: Project MOHAVE: $450,000.—Visibility Monitoring Support for all Class I areas: $1,000,000; Castnet Visibility Monitors: $486,000; Inter-Agency Workgroup on Air Quality Modeling: $290,000.

1994: Project MOHAVE: $117,000.—Grand Canyon Visibility Transport Commission: $1.4 million; Visibility Monitoring Support for all Class I areas: $900,000; Visibility Impairment and Process and Measurement Research: $550,000; Castnet Visibility Monitors: $429,000.

1995: Project MOHAVE: $290,000.—Visibility Monitoring Support for all Class I areas: $1,000,000; Castnet Visibility Monitors: $226,000.

1996: Visibility Monitoring Support for all Class I areas: $1,000,000; Castnet Visibility Monitors: $186,000.

1997: Project MOHAVE $300,000.—Visibility Monitoring Support for all Class I areas: $1,200,000; Castnet Visibility Monitors: $343,000.

1998: Visibility Monitoring Support for all Class I areas: $2,300,000; Castnet Visibility Monitors: $300,000.

NOTE: The work itemized above does not include substantial resources to develop new regional modeling platforms, such as MODELS3. EPA has spent approximately $6.1 million on regional particulate model development. These air quality models will be used by EPA and the States for strategy assessment during the coordinated implementation of ozone, fine particulate matter, and regional haze programs.

By State

No specific research was conducted by EPA specifically on a State-by-State basis.

By research area

There are four categories of research noted in § 169B(a) of the Clean Air Act. Because § 169B did not require, and EPA did not specifically address, research on these categories by air shed the following summary is simply presented by the four categories:

(A) Expansion of current visibility related monitoring in class I areas; $8.9 million on expand Class I visibility monitoring including expansion of eastern mandatory Federal Class I areas. $4.6 million on Project MOHAVE field study and follow-up analysis work to support the Grand Canyon visibility Transport Commission. EPA has funded approximately $2.2 million for Castnet Visibility monitors.

(B) Assessment of current sources of visibility impairment pollution and clean air corridors: $1.4 million.

(C) Adaptation of regional air quality models for the assessment of visibility: $700,000 directly on visibility models plus work on new regional model platforms, such as MODELS3 (approximately $6.1 million).

(D) Studies of atmospheric chemistry and physics of visibility: $650,000.

REGIONAL HAZE: NON-EPA FUNDING

Question. If any of the research offered as responsive to this congressional directive came from budgets other than EPA's, please indicate how much came from which agencies by year and by account.

Answer. None of the funds identified above came from any other agency. However, significant funding has been committed each year by the Department of the Interior to collect and analyze visibility information. The Department of the Interior, National Park Service spends approximately $1.9 to $2.5 million per year on visibility monitoring in mandatory Federal Class I areas, totaling approximately $18 million over the period 1991–1998. Also within the Department of Interior, the Fish and Wildlife Service has spent approximately $90,000 per year since 1993 on monitoring of visibility in wilderness areas. Funding for visibility monitoring has been supported by the Department of Agriculture for their mandatory Class I wilderness areas. Their support averages approximately $400,000 per year over the period 1995 through 1998, totaling approximately $1.6 million. In addition the Department of the Interior contributed significantly to the work conducted under Project MOHAVE, which also supported the Grand Canyon Visibility Transport Commission.

REGIONAL HAZE: VISIBILITY KNOWLEDGE

Question. What has EPA learned about visibility since 1990? Please present your answer in a two-dimensional matrix with six factors from § 169B(a) defining one dimension and the air sheds containing the mandatory class I Federal areas defining the other dimension?

Answer.

Clean Air Act Factor	Eastern United States	Western United States
Expansion of current visibility related monitoring in class I areas	Expansion of monitoring to more eastern Class I areas confirms that visibility impairment is must higher in the east than in the west.	Additional analysis of monitoring data in the west indicates that man-made impairment is present at all monitored locations.
assessment of current sources of visibility impairment pollution and clean air corridors	The major source of regional visibility impairment in the eastern United States is sulfates resulting from fossil fuel combustion. No clean air corridors have been identified for the eastern U.S.	The causes of man-made visibility impairment include sulfates, nitrates organic material, and crustal material. The work of the Grand Canyon Visibility Transport Commission indicates that there is a clean air corridor or transport path for the 16 parks and wilderness areas studied
adaptation of regional air quality models for the assessment of visibility	Regional models, such as RADM have been modified to assess impacts of Acid Rain controls on visibility. MODELS3 platform was developed with the ability to calculate visibility changes.	The Grand Canyon Visibility Transport Commission has developed a model to analyze effects of control strategies on visibility on the Colorado Plateau. MODELS3 platform was developed with the ability to calculate visibility changes.
studies of atmospheric chemistry and physics of visibility	Research data in the East has resulted in a better understanding of the acidic state of sulfate particles and the resulting effects on light extinction.	Research data, associated with Project MOHAVE, has documented better data on available hydrogen peroxide, cloud transformation chemistry and other reactions that assist in air quality model construction

REGIONAL HAZE: PUBLICATION DATE OF FINDINGS

Question. When does EPA plan to publish its final findings from its visibility research performed to date?

Answer. The EPA (Environmental Protection Agency), as required by § 169B(a), issued its interim findings on visibility research in October 1995. The EPA has been working on research related to visibility, particularly focusing on fine particulate modeling, since that time. The EPA shares its research findings periodically, but does not currently have specific plans to publish a compendium of such findings. However, much information is routinely included in EPA's periodic revisions to the criteria documents for particulate matter and other pollutants related to visibility impairment.

REGIONAL HAZE: RESEARCH IN AIR SHEDS

Question. What research needs to be performed in the air sheds around the country on the six factors listed in § 169B(a) to support the development of the data, methods, and other regulatory tools needed by the States to implement the visibility protection program?

Answer. No research is needed before the States can begin to implement the visibility protection program. As the National Academy of Sciences (NAS) noted in its 1993 report "Protecting Visibility in National Parks and Wilderness Areas," page 11; "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility". The NAS goes on to state that continued regulatory progress will need more research on items related to atmospheric processes, monitoring, and emissions control strategies. All of these items are also being worked on and are directly related to programs to protect the human health from exposure to fine particulate matter as well as to visibility protection. The Environmental Protection Agency (EPA) has committed to providing the funding for visibility monitoring in Class I Federal areas and will be working with the States on technical issues such as the refinement of existing air quality models refinement and the development of appropriate emissions factors as the States implement the regional haze program.

Question. How much will this follow-up research cost?

Answer. As indicated above, there is no need for additional basic research before implementing a regional haze visibility protection program and therefore no associated costs for follow-up research. As noted by the NAS and other organizations, better technical information and more refined tools will be needed over time in order to continue to implement the program. The EPA will be consulting with the States on the technical needs to implement control programs and will allocate available funds to ensure the best support for addressing these technical needs.

Question. How long will it take to perform this research and to develop the tools needed by the States?

Answer. The tools are available now to begin implementation of the program. Refinement of the tools and the building of databases, with information regarding emissions inventories, emissions factors, particle data, and other atmospheric conditions data will be an ongoing process that has been and will be supported by the EPA to the extent funds are available.

Question. Is this schedule and budget reflected in your budget request for fiscal year 1999?

Answer. Yes. The EPA has requested funds to address visibility monitoring and technical tool refinement. The EPA will also assist States through the State Grant process to meet further needs identified by the States.

169(B): REPORT FINDINGS

Question. When did EPA publish its report under § 169B(b)? Did this report cover all regions of the country?

Answer. The 169B(b) report, entitled "Effects of the 1990 Clean Air Act Amendments on Visibility in Class I Areas: An EPA Report to Congress," was published in October 1993. (EPA–452/R–93–014). A copy of this report is attached.

Question. What were the findings of that report as to trends in emissions and visual air quality for each air shed containing a mandatory Class I Federal area?

Answer. The report conducted a preliminary assessment for the entire country in order to identify the geographic areas of the country likely to see changes in visibility impairment due to existing Clean Air Act requirements. These geographic areas are shown in Figure ES–3 (page vi) at the beginning of the report. More detailed assessment were performed for the Eastern United States and for the Southwestern United States. For these areas, the Environmental Protection Agency con-

ducted an analysis comparing emissions and visibility for two scenarios: a baseline (1985 for the Eastern States, 1988 for the Southwest) and predictions for the year 2010. These calculations showed, as displayed in Figure ES–7 and discussed in greater detail in chapter 4 of the report, that much of the East should experience perceptible improvements by the year 2010, largely from reductions expected under title IV of the Clean Air Act (Act). The calculations for the Southwestern U.S., discussed in Chapter 5, show that perceptible improvements in visibility are not expected in the Southwestern U.S. from existing Act programs.

Question. How well do these findings compare with actual trends in emissions and visual air quality?

Answer. Because the report looked forward only to the year 2010, it is too early to make a direct comparison to the emission and air quality projections in the report. However, for further information we are attaching a copy of our most recent air quality trends report—chapter 3 of this report discusses recent trends in visibility.

Question. What were the reasons for the disparities between EPA's projections and actual trends?

Answer. Because no direct comparison has yet been made, it is too early to judge whether or why disparities will occur.

Question. What provisions of the CAA, as amended, and what regulations promulgated under the CAA did that report address?

Answer. The Clean Air Act programs whose effects were included in the comparison are shown in Table 4–1 (page 22) of the report.

Question. Did that report address the Kyoto protocol or the Administrations's plans for mitigating the effect of the emissions of greenhouse gases?

Answer. Because those efforts were not known at the time it was prepared, the report did not address the effects of global warming or greenhouse gas programs.

169(B): PROVISIONS, REGULATIONS AND PROGRAMS

Question. What provisions (e.g., Title III), regulations (e.g., the new ambient standards for ozone and PM–2.5), and Administration programs should EPA address in the Agency's next attempt to satisfy the § 169B(b) requirement?

Answer. Section 169B(b) requires that every 5 years after the first report (the report noted above) that the Environmental Protection Agency (EPA) must "conduct an assessment of actual progress and improvement in visibility in class I areas." Because the report is to be based on actual progress and improvement, such an assessment can be performed using monitoring data and we do not believe that the types of analyses that EPA performed for the first report are required. As EPA prepares the next report on the actual status and trends in air quality, we will consider whether and to what extent such analyses would be useful as a matter of discretion.

169(B): REPORT AND COST

Question. When can EPA prepare a comprehensive report under § 169B(b), and how much will it cost? Is this cost reflected in your current budget request?

Answer. Section 169B required a report on progress and improvements in visibility that are likely to result from implementation of the Clean Air Act Amendments of 1990 other than the provisions of section 169B. Subsequent reports are required by section 169B to assess actual progress and improvements in visibility and do not call for further analyses of other Clean Air Act provisions. The EPA plans to deliver the report on 5-year progress and improvements in visual air quality later this year, and the costs of preparing this report are included in the budget request.

169(B): TREND ASSESSMENT

Question. The CAA's § 169B(b) requires EPA to assess the actual trends in emissions and visual air quality in mandatory class I Federal areas from 1970 to the present for all regions of the country containing mandatory class I Federal areas. Has EPA responded to this commitment? If so, please provide us with a copy of the response when you respond to this letter.

Answer. The EPA has not assessed actual trends from 1970 to the present.

Question. If not, why not?

Answer. Section 169B(b) requires the Environmental Protection Agency to "conduct an assessment of the progress and improvements in visibility in class I areas that are likely to result from the implementation of the provisions of the Clean Air Act Amendments of 1990 other than * * * {the visibility provisions}." This section does not require an assessment of the effects of the Clean Air Act (Act) overall (i.e., since 1970) but only the effects of those changes that were made to the Act in 1990.

As noted above, the attached October 1993 report fulfills EPA's initial commitment under section 169B(b).

169(B): TREND ASSESSMENT DATE AND REPORT

Question. When does EPA plan to conduct the assessment and prepare the comprehensive report under § 169B(b) regarding actual trends, both of which were required by 1997? How much will it cost to respond? Is this cost reflected in your current budget request?

Answer. The Environmental Protection Agency plans to deliver the report on 5-year progress and improvements in visual air quality later this year, and the costs of preparing this report are included in the budget request.

REGIONAL HAZE: REPORT ON VISIBILITY MONITORING

Question. The CAA's section 169A(3) requires EPA to publish in a Report to Congress the visibility monitoring, modeling, and assessment tools that the Agency is required to include in final visibility rules. This provision of the CAA requires EPA to provide Congress with this Report six months before those rules go final. When does EPA plan to send us that report?

Answer. Section 169A(3) called for the Environmental Protection Agency (EPA) to complete within 18 months of enactment of section 169A a study and report to Congress describing available methods for visibility monitoring, modeling, and assessment of strategies to make progress toward the national goal of remedying existing and preventing future visibility impairment. This report was issued by EPA in October 1979 and is entitled "Protecting Visibility: An EPA Report to Congress" (EPA–450/5–79–008).

The availability of technical methods for visibility monitoring, modeling, and strategy assessment is also discussed in the National Academy of Sciences 1993 report entitled "Protecting Visibility in National Parks and Wilderness Areas." One of the important findings in this report is that: "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility." Another important conclusion is the following:

> Visibility impairment can be attributed to emission sources on a regional scale through the use of several kinds of models. In general, the best approach for evaluating emission sources is a nested progression from simpler and more direct models to more complex and detailed methods. The simpler models are available today and could be used as the basis for designing regional visibility programs; the more complex models could be used to refine those programs over time.

Question. Does EPA intend to delay the regional haze rules until six months after we have received this report?

Answer. The dates established in section 169A for reporting on methods and for adopting rules establish two independent requirements. While section 169A(3) called for the Environmental Protection Agency (EPA) to report on available methods and technical tools, section 169A(4) calls for EPA to promulgate regulations to assure reasonable progress toward meeting the national visibility goal. As noted above, EPA's report was issued in October 1979. The regulations called for under section 169A(4) were promulgated on December 2, 1980 and addressed impairment of visibility that was reasonably attributable to a single source or small group of sources. The rules proposed on July 31, 1997 are designed to address the remainder of the visibility problem, that is, the impairment of visibility over broad geographic areas as the result of transport of emissions from numerous sources within large transport regions.

REGIONAL HAZE: TOOLS FOR VISIBILITY MONITORING

Question. What tools for visibility monitoring, modeling, natural conditions assessments, and source analyses does EPA plan to provide for the States before they are put on deadlines to develop visibility SIP's?

Answer. Consistent with the National Academy of Sciences report, the Environmental Protection Agency (EPA) believes that many technical tools are already available to address regional haze. For example, data related to air quality and visibility for 30 sites has been collected under the Inter-Agency Monitoring of Protected Visual Environments (IMPROVE) program since 1988. In addition, the EPA is also funding a significant expansion of the IMPROVE network and has a visibility monitoring guidance document under development. This expanded network will help the States, Federal land managers, and EPA to better estimate natural conditions. Furthermore, EPA has a number of technical tools and guidance under development for

implementing the program which should be available before States are required to develop, assess, and adopt control strategies. The EPA is developing the REMSAD and MODELS3 regional models which will help the States to estimate fine particles, their constituents, and the associated visibility levels for different scenarios. These models will be useful for developing future control strategies designed to attain the PM–2.5 standards to make reasonable progress under the regional haze program.

Question. How much will it cost to develop these tools? Is this cost reflected in your current budget request?

Answer. With respect to visibility monitoring, seventy new visibility sites in or near Federal Class I areas are planned for deployment in 1998 and 1999. The estimated costs are $2.5 million for 1998, and $4.4 million for 1999. Starting in the year 2000, approximately $3.6 million per year will be needed for the expanded network of 100 visibility sites. With respect to modeling, the EPA has spent more than $6.1 million during fiscal year 1997 and fiscal year 1998. The estimated budget request for continued development and evaluation of these models in fiscal year 1999 is $2.3 million.

VISIBILITY TRANSPORT COMMISSIONS

Question. The CAA's § 169B addresses visibility transport regions and commissions and works with other provisions to explain the lead role that States have on defining the substantive content of reasonable progress. What are the conditions under which EPA should establish visibility transport commissions?

Answer. Under section 169B(c), the Administrator may establish a transport region when petitioned by two or more Governors of affected States, or when the Administrator herself has reason to believe that the current or projected interstate transport of air pollutants from one or more States contributes significantly to visibility impairment. If a transport region is established, the Clean Air Act (Act) requires the Administrator to establish a transport Commission. In addition, the Act specifically required the establishment of a commission for the region affecting visibility in the Grand Canyon National Park.

Question. How many visibility transport commissions has EPA established?

Answer. One. The Grand Canyon Visibility Transport Commission.

Question. Why did EPA decide to organize these visibility transport commissions and not others?

Answer. The purpose of commissions, as provided by section 169B(d), is to assess scientific and technical data and other available information pertaining to adverse impacts on visibility and to make recommendations to the Environmental Protection Agency (EPA) on what measures should be taken to remedy such impacts. Since EPA has proposed rules, based on the established science and technical information identified in part by the National Academy of Sciences, which would establish programs in each State and encourage States to work together to address visibility impairment, EPA did not deem it necessary to establish additional transport commissions. Furthermore, the Administrator has not been petitioned by any Governors to establish a transport region and therefore a commission.

GRAND CANYON VISIBILITY COMMISSION

Question. The Grand Canyon Visibility Transport Commission. How much money did the GCVTC spend each year?

Answer. The Grand Canyon Commission Visibility Transport Commission (Commission) relied on the Western Governors' Association for its financial operations which should have complete records of the expenditures made by the Commission.

Question. What were the sources of these funds (e.g. EPA grants from discretionary funds, line items from Federal appropriations bills, or State funds)?

Answer. The Environmental Protection Agency (EPA) contributed $250,000 per year for fiscal years 1991 through 1996 for Administrative functions. The EPA also funded approximately $1,400,000 in fiscal year 1994 to support policy analysis needed to develop the strategies options of the commission. To EPA's knowledge there were no line items from Federal appropriations bills. Over the life of the Commission the Western Governors' Association contributed approximately $15,000 and the Western Petroleum Institute contributed approximately $25,000.

Question. How much of these funds were spent on administrative matters, and how much on substantive matters?

Answer. The base funding of $250,000 per year was primarily for administrative functions and to ensure that all stakeholders were able to attend various meetings sponsored by the Grand Canyon Visibility Transport Commission. The one-time grant of approximately $1,400,000 to the Commission provided it with the funds to build an Integrated Assessment System to model visibility changes and costs associ-

ated with various emissions control strategies. In addition that one-time money allotment contributed to qualitative studies of effects on factors related to health, social and economic impacts.

Question. How much of these funds were spent on travel and expenses for personnel from the Federal Government, State Governments, the Tribes and environmental groups.

Answer. None of these funds were used for travel by any Federal Government personnel. The Western Governors' Association would have records on exact amounts for travel by State, Tribal and Environmental group participants.

MULTI-STATE ORGANIZATIONS OF VISIBILITY PROTECTION

Question. What is the value of a multi-state organizations during the post-regulation phase of the visibility protection program?

Answer. After the Environmental Protection Agency sets the requirements for States to address regional haze visibility impairment as part of their State Implementation Plans, a multi-State organization will provide one means for States to communicate on issues related to the transport of pollutants, including policies to address that transport. Given the regional character of visibility impairment, the EPA believes that these organizations serve very important consultative and coordination functions.

GCVTC'S RECOMMENDATION

Question. One of the GCVTC's recommendations was for a successor body to carry the Commissions's work forward. What are EPA's views as to the sensibility of that recommendation?

Answer. The Environmental Protection Agency (EPA) supports the States' and Tribes' desires to organize a successor body to the GCVTC. The Western Regional Air Partnership was officially formed in September, 1997, and EPA has been a full participant in the process at the request of the States and Tribes.

MULTI-STATE ORGANIZATION POST-REGULATION

Question. Does EPA intend to fund this post-regulation multi-state organization.

Answer. The Environmental Protection Agency (EPA) has set aside approximately $369,000 this year for funding the Western Regional Air Partnership (WRAP) through the Western Governors' Association. The EPA is planning to fund the WRAP for approximately $150,000 in fiscal 1999. Additionally, EPA will work with the States participating in the WRAP in allocating available grant funding as the States request to fund the WRAP in future years.

MULTI-STATE ORGANIZATION CRITERIA

Question. What discretion do the Western States have to configure their multi-state organization to implement the regional haze rules and still attract Federal funds?

Answer. The Environmental Protection Agency does not intend to dictate the particular structure or configuration of multi-state organizations to implement the regional haze rule. Western States may configure an organization for the purposes of discussing how each State or Tribe may implement the requirements of the regional haze rule, and those efforts could be supported by Federal funds to the extent allowed by law. For instance, if those multi-state organizations want to include all stakeholders (including non-governmental participants), then the exclusive use of Federal funds to conduct such a process may subject that process to the requirements of the Federal Advisory Committee Act.

Question. What criteria does EPA intend to use to decide how much money the Agency will give to this multi-state organization?

Answer. The States may choose to fund from Environmental Protection Agency (EPA) grants regional groups the States deem necessary for implementing the Clean Air Act. In fiscal year 1999 and beyond, EPA intends to consider funding of multi-state organization based on the consent of the States involved. However, EPA has not at this time established specific criteria for future funding of multi-state organizations. The EPA anticipates that decisions will be based in part on the combination of available funds and the scope and purposes for which State organizations request them.

Question. Has the EPA consulted with all of the Western States about the scope of these criteria?

Answer. The Environmental Protection Agency (EPA) has coordinated with the organization representing all of the States, the State and Territorial Air Pollution Pro-

gram Administrators (STAPPA), on many issues regarding future funding of multi-state organizations. As noted, at this time EPA has no set of criteria regarding the future funding of multi-state organizations.

Question. If no, why not; and when will that consultation take place?

Answer. Consultations with STAPPA/ALAPCO and the Association of Local Air Pollution Control Officials are ongoing. Additionally, the Environmental Protection Agency will consult with any group of States wishing to discuss the funding of a particular multi-state organization.

MULTI-STATE ORGANIZATION BUDGET

Question. What budget does the Western multi-state organization have for its work?

Answer. The Western Regional Air Partnership (WRAP) is still in its formative stage and has a preliminary budget of approximately $408,000 for fiscal year 1998 that includes mainly administrative functions. Main items in the fiscal year 1998 budget include approximately $200,000 for travel, and $100,000 for support of the Western Governors' Association in its role as administrative co-chair.

Question. What level of support does EPA plan for the Western multi-state organization?

Answer. The Environmental Protection Agency (EPA) has approximately $369,000 set aside for a grant application from the Western Governors' Association.

Question. If the Federal Government does not provide funds for the budget of the Western multi-state organization, will we have imposed an unfunded mandate on the Western States?

Answer. While the EPA strongly encourages and supports multi-state coordination and planning, EPA is neither imposing a specific requirement for multi-state organizations, nor requiring that such organizations be created.

The Western Regional Air Partnership is a voluntary organization formed by the States and Tribes and EPA participates at the request and consent of the States and Tribes. No unfunded mandate issues are implicated by the Western Regional Air Partnership.

Question. Is the financial need of the Western multi-state organization reflected in your budget request?

Answer. The proposed budget for the EPA includes an allocation for State grants. Currently EPA is planning to distribute $150,000 of those fund to the Western Regional Air Partnership in fiscal year 1999. The EPA will work with States participating in the Western Regional Air Partnership in getting agreement from them on the proper level of funding from the remaining State grant allocations for use by the WRAP. In addition, EPA will work with the States on their level of support for the WRAP in future years.

VISIBILITY TRANSPORT COMMISSIONS IN OTHER REGIONS

Question. What is the value of visibility transport commissions in other regions?

Answer. Establishment of a visibility transport commission does not impose a statutory duty to develop a long-term regional haze strategy for the transport region. The EPA applauds the efforts of the Grand Canyon Visibility Transport Commission in going beyond the minimum statutory goals in developing a comprehensive long-term strategy for the Colorado Plateau. EPA believes that integrated efforts by regional planning bodies are needed to develop the long-range strategies. However, because there is a critical need for States to coordinate efforts to address long-range transport of PM 2.5 and ozone precursors, as well as visibility impairment, EPA does not believe that visibility transport commissions are the best approach to achieving this regional coordination.

MULTI-STATE ORGANIZATION POST-REGULATION IN OTHER REGIONS

Question. What is the value of multi-state organizations during the post-regulation phase of the visibility protection program where there have been no visibility transport commissions?

Answer. The Environmental Protection Agency (EPA) believes that regional planning between States will be an important aspect of implementing the new regional haze program. EPA used the Federal Advisory Committee Act (FACA) process to establish the Subcommittee on Ozone, Particulate Matter, and Regional Haze under the Clean Air Act Advisory Committee. EPA agrees with its recommendations that certain planning activities could be effectively integrated across programs. The planning work of multi-state organizations could involve a number of activities, including the enhancement of PM–2.5 emissions inventories and the assessment of regional strategies through application of regional modeling tools.

However, EPA does not propose to establish a requirement for States to undertake regional planning. While EPA strongly encourages States to collaborate in regional planning, EPA has proposed to leave it to the States' discretion to decide whether to petition the Administrator for the creation of visibility transport commissions, pursue some other approach using existing or new organizations, or choose to not conduct regional planning at all.

Question. Does EPA intend to fund post-regulation multi-state organizations in other regions?

Answer. The EPA intends to use its funding to support the implementation efforts of States and multi-state organizations in a number of ways. The EPA will continue to provide Federal funds to States under authority of section 105 of the Clean Air Act to be used for direct implementation of air quality programs, including the regional haze program. The EPA will consult with groups of States wishing to discuss support for funding a particular multi-state organization. Any decision by EPA to fund regional organizations will only be made with the support and concurrence of the affected States.

MULTI-STATE ORGANIZATION AND REGIONAL HAZE

Question. What discretion do the States have to configure their multi-state organizations to implement the regional haze rules and still attract Federal funds?

Answer. The Environmental Protection Agency (EPA) does not intend to dictate the particular structure or configuration of multi-state organizations. States may configure an organization for the purposes of discussing how each State or Tribe may implement the requirements of the regional haze rule, and those efforts could be supported by Federal funds to the extent allowed by law. For instance, if those multi-state organizations want to include all stakeholders (including non-governmental participants), then the exclusive use of Federal funds, other than grant funds, to conduct such a process may subject that process to the requirements of the Federal Advisory Committee Act.

MULTI-STATE ORGANIZATION FUNDING CRITERIA

Question. What criteria does EPA intend to use to decide how much money EPA will give to these multi-state organizations? Has EPA consulted with all of the States about the scope of these criteria? If not, why not; and when will that consultation take place?

Answer. At present, the Environmental Protection Agency (EPA) has not earmarked any specific funds, or developed specific criteria for allocating any funds to multi-state organizations conducting regional haze planning. The States may choose to fund from EPA grants any regional groups the States deem necessary for implementing the Clean Air Act. The EPA intends to fund multi-State organizations only with the consent of the States involved. The EPA has held discussions with State representatives on many issues regarding future funding of multi-state organizations, and EPA will continue to consult with interested groups of States to explore the most effective approaches for multi-state planning.

Question. Are these criteria spelled out in EPA's proposed rules? If not, why not?

Answer. The Environmental Protection Agency (EPA) did not include specific criteria in the proposed regional haze rule for allocating any funds to multi-state organizations conducting regional haze planning. One reason for this is that at the time the proposed rule was under development, EPA, the States, and other stakeholders were participating in discussions (as part of the Clean Air Act Advisory Committee and its Subcommittee on Ozone, Particulate Matter, and Regional Haze process) about the most appropriate "institutional mechanism" for the conduct of regional air quality planning. The EPA intends to continue working with the States to explore the most effective approaches for multi-state planning.

MULTI-STATE ORGANIZATION CRITERIA VS. SIP CRITERIA

Question. Will EPA fund a State that chooses to work alone as it develops its record and SIP?

Answer. States are currently funded under section 105 to conduct activities such as visibility planning and implementation. To the extent that multi-state organizations are funded from section 105 grant allocations, a State choosing not to participate in such an organization would not be asked to forfeit section 105 grant funds allocated to it for the purpose of preparing visibility plans.

Question. Will the criteria be different for this funding decision from those criteria used for multi-state organizations?

Answer. As noted above, the Environmental Protection Agency has not developed specific criteria for allocating any funds to multi-state organizations or to individual

states conducting regional haze planning, but EPA anticipates that it would establish such criteria based on equitable considerations.

MULTI-STATE ORGANIZATION BUDGET IN OTHER REGIONS

Question. What budget does EPA intend for the multi-state organizations in other regions?

Answer. The States may choose to fund from Environmental Protection Agency (EPA) grants regional groups the States deem necessary for implementing the Clean Air Act. In fiscal year 1999 and beyond EPA intends to consider funding of multi-state organization based on the consent of the States involved. However, EPA has not at this time established specific criteria for future funding of multi-state organizations. The EPA anticipates that decisions will be based in part on the combination of available funds and the scope and purposes for which State organizations request them.

Question. If the Federal Government does not provide funds for the budget of these multi-state organizations, will we have imposed an unfunded mandate on the States?

Answer. The Environmental Protection Agency is encouraging, but not requiring, the formation of multi-State organizations. EPA, therefore, is not imposing an unfunded mandate on the States.

Question. Is the financial need of the multi-state organizations for other regions reflected in your budget request?

Answer. The States may choose to fund from Environmental Protection Agency (EPA) grants regional groups the States deem necessary for implementing the Clean Air Act. In fiscal year 1999 and beyond EPA intends to consider funding of multi-state organization based on the consent of the States involved. However, EPA has not at this time established specific criteria for future funding of multi-state organizations. The EPA anticipates that decisions will be based in part on the combination of available funds and the scope and purposes for which State organizations request them.

VISIBILITY TRANSPORT PLAN REVISION UNDER 169(B)

Question. In his floor statement introducing § 169B in 1990, Senator Adams, who authored the provision, explained that only States included in a visibility transport region would be expected to revise their plans in order to implement any supplemental requirements added by the EPA under § 169B(e)(1). Why has EPA required all States to prepare visibility SIP's when only 8 sat on the Grand Canyon Visibility Transport Commission?

Answer. The Environmental Protection Agency (EPA) agrees that States should not be bound by control strategy decisions made by other States or organizations without an opportunity to participate in the assessment and planning process. However, all states are obligated by section 169A to address the causes of visibility impairment. In 1980, EPA issued visibility rules under section 169A of the Act to address impacts on Class I areas that could be attributed to single sources or small groups of sources. In that rulemaking, EPA stated it would issue rules dealing with regional haze when better technical information on the pollutants and sources responsible for haze became available. The science of regional haze is now well understood and the tools necessary to address the problem of regional haze now exist. Section 169A directs EPA to develop a program to address visibility impairment in all of the mandatory Federal Class I areas. Because this obligation had yet to be fulfilled for regional haze, the 1990 Clean Air Act Amendments gave EPA a statutory deadline for issuing regional haze rules: 18 months after EPA received the GCVTC report. The EPA received the report in July 1996 and is committed to finalizing the rule as soon as possible. In its July 1997 action setting the particulate matter standards, EPA highlighted the regional nature of visibility effects, and that the regional haze program would be needed to address the visibility effects associated with PM.

VISIBILITY TRANSPORT PLAN TO CONVENE COMMISSION

Question. Now that 44 States have filed comments asking that the proposed rule not be implemented in their jurisdictions, does EPA plan to convene visibility transport commissions before a visibility rule is applied to States outside the GCVTC and to mandatory class I Federal areas not on the Colorado Plateau?

Answer. States submitting comments on the proposed rule requested a variety of changes to the rule, but only a few of them questioned whether emissions from sources within their borders caused or contributed to visibility impairment such that they should be required to participate in regional haze planning. The Environmental Protection Agency (EPA) noted in its proposal that available evidence indicated that

emissions from sources within each State contribute to impairment of visibility in at least one Class I area located within another State. Thus, participation by all States in more refined planning and assessment will be needed to confirm or refute this evidence. The EPA has no current plans to establish additional transport commissions. Section 169B gives EPA the discretion to create transport commissions, but does not require that EPA establish them. Where such a commission is established, the Commission's statutory charge is to develop a report to the Administrator on recommendations regarding (1) clean air corridors, (2) requirements for new and major sources in such corridors, and (3) EPA regulations to address long term strategies. Hence, even if a Commission is established, there is no requirement that the result will be a long-term regional haze strategy for the region.

REGIONAL HAZE: IMPLEMENTATION USING SESARM

Question. In the Southeastern U.S., the States—in a spirit of cooperation—have proposed using its SESARM to implement the regional haze program. Does EPA plan to fully fund this effort?

Answer. The States may choose to fund from Environmental Protection Agency (EPA) grants regional groups the States deem necessary for implementing the Clean Air Act. In fiscal year 1999 and beyond EPA intends to consider funding of multi-state organization based on the consent of the States involved. However, EPA has not at this time established specific criteria for future funding of multi-state organizations. The EPA anticipates that decisions will be based in part on the combination of available funds and the scope and purposes for which State organizations request them.

Question. Does EPA's proposed budget include full funding for SESARM's work?

Answer. The States may choose to fund from Environmental Protection Agency (EPA) grants regional groups the States deem necessary for implementing the Clean Air Act. In fiscal year 1999 and beyond EPA intends to consider funding of multi-state organization based on the consent of the States involved. However, EPA has not at this time established specific criteria for future funding of multi-state organizations. The EPA anticipates that decisions will be based in part on the combination of available funds and the scope and purposes for which State organizations request them.

Question. If we decide not to fund EPA to complete its tasks under § 169 A and B, but to give the money instead to the States as they work together in visibility transport commissions or other multi-state organizations, what will be the costs of this alternative effort?

Answer. Because the geographic size, nature and scope of activities by multi-state organizations could vary substantially, as could the technical efforts needed to support them, it is not possible to estimate the costs of such activities.

Question. Would a failure to fund either EPA or the States for these tasks impose an unfunded mandate on the States?

Answer. Since the Environmental Protection Agency has neither mandated the formation of such organizations nor established specific requirements for them to carry out, this would not constitute an unfunded mandate.

REGIONAL HAZE: BUDGET FOR FISCAL YEAR 1998, 1999, 2000

Question. What is EPA's budget for the regional haze program in fiscal year 1998, fiscal year 1999, and fiscal year 2000?

Answer. Funding for the regional haze program has been constant over the three year period of fiscal year 1998–fiscal year 2000 and is funded at $1,930,000 per year.

Question. What will these funds be spent on?

Answer. For all three years, these funds will be spent to support visibility monitoring in Class I areas via the IMPROVE network ($1,250,000); support for the Southern Appalachian Mountain Initiative (SAMI) to continue their efforts in assessing acid deposition and visibility impairment ($380,000) and for general regional haze support ($300,000).

Question. Compare these proposed funding levels with the States visibility budgets and with the funding that EPA plans to offer to support the States on visibility.

Answer. With the initial State Implementation Plan revisions for visibility not due until possibly late in fiscal year 1999, EPA has not seen State budgets for visibility work. These are currently being negotiated with States as part of the fiscal year 1999 grant negotiations process. EPA does not anticipate a large funding effort regarding visibility with this initial SIP revision. As individual States prepare more specific SIP revisions addressing regional haze, we do anticipate more resources being directed towards this program.

Question. Has EPA assessed the adequacy of the Federal grants to the States with respect to the visibility issue in light of the other demands on the States' resources?

Answer. The current effort regarding visibility SIP preparation in the States is fairly minimal. Accordingly present funding for regional haze support has been a lower priority than funding for the ozone program and the fine particle program. Following the submission of the States initial visibility SIP's, EPA will reassess its grant funding priorities to consider additional needs for regional haze along with its need to support the fine particle monitoring network as well as expanded efforts in the air toxics program.

VISUAL AIR QUALITY: FIRES ON FEDERAL LANDS

Question. During your testimony before the Committee, you indicated that the visual air quality associated with prescribed fire would be excluded from the data base. I interpret this remark to mean that there will be no States supervision over the visual air quality effect in mandatory class I Federal areas of fire on Federal lands and that the effect on visual air quality of emissions from fire on Federal lands would not alter the rights and responsibilities of other source owners. Is the interpretation consistent with the intent of the visibility protection program and the manner in which the EPA plans to implement it?

Answer. The Environmental Protection Agency has provisions in its regulations which allow States determining whether they are violating national ambient air quality standards to exclude high values that occur as a result of certain natural events, such as wildfires and dust storms. In addition, recognizing that wildfires can produce unhealthful concentrations of pollution, EPA has taken steps to work with Federal land managers to craft policies which recognize that controlled burning is carried out in many instances to reduce the likelihood, frequency, and severity of wildfires, thereby contributing to improved air quality. The policy recently announced by EPA, the Department of Interior, and the Department of Agriculture is intended to address this issue with regard to the role of fire in the implementation of PM2.5 air quality standards, and is intended to encourage practices which both reduce the need for burning and which reduce the emissions resulting from fire when burning must be conducted. We expect to pursue additional efforts with these agencies to address the role of fire in the achievement of reasonable progress for visibility.

Section 169A does not require actions to eliminate all sources of visibility impairment, but rather directs EPA and States to remedy and prevent impairment of visibility that is "man-made." Thus it is important to distinguish between impairment that would result from fires which are an important part of natural ecological processes, and fires which are a consequence of a long history of fire suppression in this country and current efforts to conduct prescribed burning to restore the natural fire cycle. EPA is working with Federal land managers to identify ways to account for and discount, for visibility analyses, impairment from prescribed fire which is equivalent to that which would have occurred naturally and therefore would not be considered "man-made." This degree of impairment would thus not affect State obligations to provide for reasonable progress in their SIP's. Some prescribed burning is conducted for reasons other than restoring the natural fire cycle and reducing the risk of wildfire. The effects of such burning will need to be addressed if it hinders reasonable progress.

CLASS I FEDERAL AREAS PRESCRIBED FIRES

Question. How much impairment in the mandatory class I Federal areas is derived from prescribed fire (by mandatory class I Federal area) and how much is it expected to grow?

Answer. The Environmental Protection Agency does not have estimates of how much visibility impairment is due to prescribed fire by each class I area. For some regions of the country, the major pollutant from prescribed fire, elemental carbon, is usually less than 10 percent of the total visibility impairment. This include impacts from wildfire which emit much more elemental carbon than prescribed fires over a multi-year period. Estimates of growth for prescribed fire range up to a 5-fold increase in some areas of the western United States where fire suppression has been based on work completed for the Grand Canyon. Use of prescribed fire is not expected to grow that much in other areas of the country. The effect on visual air quality of this increase is difficult to predict since there may be an associated decrease in wildfire emissions.

CLASS I FEDERAL AREAS VISITORS EXPERIENCE

Question. Given the impairment associated with fire, how serious is EPA in its commitment to improve the visitors' experience in the mandatory Class I Federal areas if the Agency plans to exclude fire data from the data base that State regulators will use?

Answer. It is important to note that the wildland fire policy which the Environmental Protection Agency (EPA) recently issued is an interim policy. One of the primary reasons for this was the fact that the regional haze program is not final. The EPA intends to re-examine this policy when the regional haze program is finalized to insure consistency of approach in dealing with the issue of wildland fires. The EPA does not plan to exclude the data from fire from the visual air quality data base but, as noted above, intends to distinguish, in assessing the degree of visibility improvement that may be needed, between that which is natural (not "man-made" or its equivalent) and that which would not have occurred under a natural fire cycle. Thus, EPA expects States to consider the causes of visibility impairment and develop strategies which are responsible to those contributions.

EXCLUDE FIRE DATA FROM DATA BASE

Question. Did EPA include in its proposal the notion of excluding fire data from the data base and the methodology for excluding fire data?

Answer. In its existing visibility regulations and in the preamble to its proposed rule Environmental Protection Agency (EPA), in fact, identified fire emissions as one of a variety of sources which must as a general matter be considered in strategies to achieve reasonable progress.

Question. If not, why not?

Answer. Since, except as described above, the EPA is not intending to exclude data from fire events in the tracking visibility in the mandatory Class I Federal areas, it was not necessary to make this a part of its proposed rule.

Question. How can EPA take comment on an issue if it is not noticed in proposed rules?

Answer. The EPA solicited comment on all aspects of its proposed rule. However, EPA proposed no specific regulatory requirements or exemptions for fire emissions, but rather left to States' discretion the selection of appropriate sources to include in their control strategies, commensurate with the nature and extent of visibility impairment in their class I areas.

REGIONAL HAZE: FEDERAL AGENCIES

Question. Congress has a long history of requiring Federal agencies to live by the same rules that State and private sector live by. (e.g., the Federal Facilities Compliance Act (Public Law 102–386)). Please explain how the regional haze rule proposal honors, if at all, this policy?

Answer. The proposed regional haze rule is structured so States determine a set of strategies to make reasonable progress toward the national goal. As section 118 of the Clean Air Act establishes, requirements to address air quality which the State impose on sources within that state, such as a strategy to address all prescribed fire, would apply to Federal management practices in the same manner as they would apply to any nongovernmental entity.

USE OF FIRE IN NATIONAL FORESTS

Question. Please explain why EPA focuses on the use of fire in the national forests rather than more benign methods of addressing the fuel crisis, such as mechanical treatment?

Answer. The Environmental Protection Agency (EPA) worked closely and cooperatively with Federal Land Managers (FLM's) and other stakeholders in the development of the Interim Wildland Fire Policy. As a part of this process it became apparent that FLM's base their decision to use a land management tool such as prescribed fire on several factors, but the needs of the ecosystem are the primary motivating factors. Mechanical treatment is not always desirable or feasible. Some ecosystems require fire to achieve and maintain a sustainable state because fire performs some functions that other treatments cannot. For example, some species of trees cannot reproduce without fire because their seeds will not open any other way. Fire also returns nutrients to the soil which is a function no other treatment can duplicate. Mechanical removal (or thinning) of trees and forest debris is performed sometimes in preparation for a prescribed burn to reduce the intensity of the fire and thus reduce smoke. It is also done alone as a fuels reduction treatment where it is physically possible to do so. However, in some cases the site is too remote, the

forest too dense, and/or the slope of the land too great to allow the use of the heavy equipment needed to perform mechanical removal. Mechanical removal can also be more expensive than prescribed fire. If the management goal is to kill insects that destroy trees (another function fire performs), pesticide use may be banned and has adverse environmentally consequences that must be considered.

The EPA supports the responsible use of prescribed fire under a smoke management program as one of the most effective land management tools available to restore our ecosystems to a healthy state.

REGIONAL HAZE: FEDERALLY FUNDED HIGHWAYS

Question. How, if at all, will the regional haze rules, as proposed, affect the pre-construction review process for Federally funded highways?

Answer. The regional haze rule, as proposed, does not mandate any changes to the pre-construction review process for Federally funded highways.

Question. Please describe the process the States will have to include in their SIP's to handle the FLM's involvement in this review process.

Answer. Under the existing visibility protection program established in 1980, States must consult with Federal Land Managers in revising SIP's to address visibility, including revisions to the long-term strategies. The proposed regional haze provisions do not change this basic existing SIP requirements.

Question. Is this process described in the proposed rules? If not, why not? When does EPA plan to solicit public comment on this process?

Answer. The existing visibility protection program established the requirement for States to consult with the Federal Land Managers. The regional haze proposal applies that requirement for consultation to the strategies to address regional haze and to elements of the State Implementation Plans requiring the technical expertise of the Federal Land Managers. These provisions were noticed in the regional haze proposal. Again, the regional haze rule does not require Federal Land Manager review of transportation projects unless the State wants to establish such review as part of its strategy make reasonable progress toward the national visibility goal.

Question. What assurances do we have that the additional level of bureaucratic review by the Park Service or the Forest Service to assess regional haze impacts from highway construction or use will not be as intrusive as it has become in the context of new source review for major stationary sources?

Answer. The States may choose the strategies needed for making reasonable progress including more review of transportation plans, but there is no requirement in the regional haze rule to require such reviews. Moreover, while Federal Land Managers have an important consultative role, nothing in the propose rule establishes a Federal new source review requirement for highway construction independent from the normal environmental review and air quality planning requirements which already exist under the Clean Air and National Environmental Policy Acts.

QUESTIONS SUBMITTED BY SENATOR SHELBY

PM: CONGRESSIONAL DIRECTIVE

Question. What actions has your agency taken to comply with Congress's directive? It is my understanding that only $8 million dollars have been utilized to this point? How did you spend the funding? Why have you elected not to use the rest of the funds? How much of the $49.6 million will be obligated in fiscal year 1998? On what programs?

Answer. The agency has taken and continues to take extensive actions to address the congressional directive. First, the EPA base program, which includes intramural research and investigator-initiated grants, has proceeded without delay. The intramural base program is funding research including exposure assessment with intensive monitoring of ambient air in several cities, health studies including identification of key components of PM and mechanisms by which PM elicits toxicity, epidemiology studies of sensitive sub-populations, and source characterization studies to identify the contribution to ambient PM from less well understood sources. The base grants program is anticipated to fund complementary research on mechanisms of toxicity, epidemiology and exposure error. EPA published a Request for Applications for the base grants program at the end of September 1997, and in May 1998 an external scientific peer panel reviewed submitted applications. Selection of recipient organizations is anticipated to occur this summer. We expect the major portion of the base program funding, including the grants program, to be obligated during this fiscal year.

Secondly, as directed by Congress in Appropriations bill, EPA entered into a contract with the National Academy of Sciences (NAS) to develop a report on research priorities for particulate matter. The first report was received on schedule on March 31, 1998, in which NAS recommended a number of high priority research areas. The agency is currently evaluating ongoing research efforts and obligating funds consistent with the NAS recommendations. With the exception of funds for the NAS contract and for expansion of research efforts by the Health Effects Institute, and consistent with the appropriations language, the remaining fiscal year 1998 funds were held in reserve until the NAS report was delivered.

At this time, the Agency intends to obligate $47.4 million in fiscal year 1998. The $8 million for PM Research Centers will not be obligated in fiscal year 1998. The PM Research Centers Request for Applications was developed after receipt of the NAS report, consistent with Congressional direction that the Centers be targeted to priority needs. Funds cannot be obligated for these Centers in fiscal year 1998 due to the time required for university investigators to develop Centers proposals (a period of 5 months is allowed) and to peer review and select the recipient organizations.

PM: SCHEDULE FOR IMPLEMENTATION

Question. In the EPA's October Federal Register Notice, your agency did recognize that scientific uncertainties associated with the health and environmental effects of PM and the means of reducing such effects remained. Doesn't the narrow time frame of the schedule for implementation limit the use of any new research? Considering the controversy surrounding this rule, isn't it imperative that your agency consider the results of this directed and objective science prior to full implementation of the rule? If not, please explain.

Answer. Based on the President's implementation memorandum that was published along with the revised PM and ozone standards on July 18, 1997, full implementation of the PM standards is expected by 2012–2017. Clearly, this is not a "narrow" schedule. In the initial stages, the fine particle monitoring network will be established to collect air quality data to designate areas. At the same time the next periodic (5 year) review of the standards will be conducted, concluding in 2002. Designation of nonattainment areas will take place after that review is completed, in 2002–2005, and State Agencies will submit implementation plans for meeting the new standards during the years 2005–2008. Therefore, still a further periodic review of the NAAQS is required before the time the new PM standards are fully implemented.

During these years, EPA anticipates receiving numerous reports of research findings on the health and environmental effects of PM. The results of new studies will be reviewed during the course of upcoming PM NAAQS reviews, as has been done in previous NAAQS criteria reviews. EPA has numerous efforts underway to obtain input from scientists outside the agency on issues related to PM implementation, such as the development of research-oriented PM monitoring sites. EPA is also actively working to address the issues and recommendations made by the National Academy of Sciences' Committee on Research Priorities for Particulate Matter. EPA will clearly be able to give full consideration to the results of new scientific studies prior to the full implementation of the new PM NAAQS.

PM: NAS RECOMMENDATION OF HIGHEST PRIORITY

Question. The National Academy of Sciences has stated that the President's Budget request is insufficient to support the particulate-matter research agenda recommended in its report for addressing the highest priority research needs. The Committee recommended that Congress set funding at the $49M level for the next several years. Isn't funding of that level needed to assure progression in the research? If not, please explain.

Answer. As indicated by the NRC and recognized by the Agency, a substantial level of funding is needed for particulate matter (PM) research, and the Agency is committing substantial resources in fiscal year 1998 and fiscal year 1999 to address the research needs. Below is a comparison of the Environmental Protection Agency's (EPA's) estimated fiscal year 1998 Enacted Budget and fiscal year 1999 President's Budget Request to the National Research Council (NRC)/National Academy of Sciences (NAS) recommendations for PM Research. To summarize, the NRC recommends $39.6M in fiscal year 1998 and $45.7M in fiscal year 1999 be spent on PM research to address their highest priority research areas for a total of $85.3M. EPA has in its fiscal year 1998 Enacted Budget $50.2M for PM research (plus an additional $5.2M in certain Congressional "add-ons" as listed below). For fiscal year 1999, the President's Budget Request includes $28.7M for PM research within EPA's

Office of Research and Development and $15M for monitoring "super sites" within EPA's Office of Air and Radiation; a total of $43.7M related to PM research needs in fiscal year 1999. EPA's combined PM research-related budget for these two years is $93.9M (plus an additional $5.2M in certain Congressional "add-ons").

The $8M funding for five university-based research centers focusing on PM-related health effects, as provided for in the fiscal year 1998 Appropriations, will be funded in fiscal year 1999. The Agency waited for the NRC's recommendation of priority research areas before issuing a Request for Applications for PM research centers to focus on these priority research areas. Upon receipt of the NRC's recommendations, EPA immediately prepared the Request for Applications, which was announced May 19, 1998 and provides a five-month period for submitting applications. As a result, grants supporting the centers will not be awarded until the beginning of fiscal year 1999. Therefore, we expect fiscal year 1998 funding of PM research to be $42.2 (plus the $5.2M in certain Congressional "add-ons".) Whereas, the fiscal year 1999 funding for EPA's PM research efforts, including the fiscal year 1998 resources for the centers, will be $51.7M.

Additional support for PM-related research in fiscal year 1998 come from $5.2M Congressional "add-ons" which are not strictly focussed on PM research but which provide support for such research through activities in allied fields. These funds are listed at the bottom of the following table.

COMPARISON OF EPA ESTIMATED FISCAL YEAR 1998 AND FISCAL YEAR 1999 BUDGETS TO NRC RECOMMENDATIONS

[In millions of dollars]

	NRC recommendations—fiscal year		EPA estimated enactment fiscal year 1998	President's budget fiscal year 1999
	1998	1999		
I. NRC highest priority research areas	39.6	45.7	42.7	22.6
II. Implementation-related research, not identified in NRC report as among highest priorities	.....	.....	7.5	6.1
Subtotal of Sections I and II	.....	.....	50.2	28.7
III. OAR Monitoring "super sites"	.....	.....	.....	15.0
Subtotal of Sections I, II, and III	.....	.....	50.2	43.7
IV. Five University-based Research Centers: Centers (earmarked in fiscal year 1998; grants awarded in fiscal year 1999)	.....	.....	−8.0	8.0
Total	.....	.....	42.2	51.7
Other fiscal year 1998 Enacted Congressional "Add-ons:"				
Lovelace	.....	.....	2.0	.....
Johns Hopkins	.....	.....	1.5	.....
Jewish Lung Ctr	.....	.....	1.7	.....
Total	.....	.....	5.2	.....

Note: The research in the Congressional "Add-ons" (above) broadly supports Air-related research, including PM.

AIR STANDARDS: INDUSTRY AIR EMISSIONS

Question. Over the last year, the EPA has promulgated or proposed several rules that effect air emissions by industry. These include the recently promulgated Cluster Rule which imposes Maximum Achievable Control Technology on air emissions, the new ozone and particulate matter rules, the proposed regional haze rule and the NO_x SIP Call rule which further controls air emissions from mid-western states, including Alabama, that are carried by air current to the Northeast. Has the EPA reviewed the big picture to view the cumulative effect of these rules?

Answer. Final action on the review of the ozone standard was published July 18, 1997. The standard will provide increased protection to the public, especially children and other at-risk populations, against a wide range of ozone-induced health effects, including decreased lung function, primarily in children active outdoors; increased respiratory symptoms, particularly in highly sensitive individuals; hospital admissions and emergency room visits for respiratory causes, among children and adults with pre-existing respiratory disease such as asthma; inflammation of the lung, and possible long-term damage to the lungs. The new standard will provide increased protection to the public welfare against ozone-induced effects on vegetation, such as agricultural crop loss, damage to forests and ecosystems, and visible foliar injury to sensitive species. The next review of the ozone standard is scheduled to be completed mid-2002.

Final action on the new suite of primary standards for Particulate Matter (PM) was also published July 18, 1997. The primary standards will provide increased protection against a wide range of PM-related health effects, including premature mortality and increased hospital admissions and emergency room visits, primarily in the elderly and individuals with cardiopulmonary disease; increased respiratory symptoms and disease, in children and individuals with cardiopulmonary disease such as asthma; decreased lung function, particularly in children and individuals with asthma; and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The new secondary standards, in conjunction with a regional haze program, will provide appropriate protection against PM-related public welfare effects including soiling, material damage, and visibility impairment. The next review of the PM standards is scheduled to be completed mid-2002.

EPA integrated the development of the Paper and Pulp Manufacturing Cluster rules to address the emissions of hazardous air pollutants and toxic pollutants to the water to provide greater protection of human health and the environment, reduce the cost of complying with the wastewater regulations and air emissions controls, promote and facilitate coordinated compliance planning by industry, promote and facilitate pollution prevention, and emphasize the multimedia nature of pollution control.

The Agency envisioned a long-term approach to environmental improvement that is consistent with sound capital expenditures. This approach stemmed from extensive discussions with a range of stakeholders. The effluent limitations guidelines and standards and air emissions standards are only one component of the framework to achieve long-term environmental goals. The overall regulatory framework includes incentives to reward and encourage mills that implement pollution prevention beyond regulatory requirements.

The EPA attempts to account for the cumulative cost and benefit impacts of its rules to the extent possible. For example, the Regulatory Impact Analysis (RIA) for Particulate Matter (PM) and Ozone national ambient air quality standards (NAAQS) and proposed Regional Haze rule included an assumption of the likely reductions which would result from the proposed rule to require 22 states and the District of Columbia to submit state implementation plans (SIP) that address the regional transport of ground-level ozone, the main component of smog. In addition, it looked at the implementation of those three rules jointly because of the similarities in the pollutants that contribute to these problems (particulate matter, nitrogen oxides, and organics) and sources of those pollutants. Similarly, the same analysis included an assumption of the likely reductions resulting from the Paper and Pulp Manufacturing Cluster Rule. Both the regional ozone transport rule and the Cluster rule will precede the full implementation of the PM and Ozone NAAQS and Regional Haze rule. However, both of these rules changed since the assumptions were developed for the NAAQS analysis so that the benefit and cost estimates done for the NAAQS do not reflect the most recent version of these other rules. EPA is now revising the analyses for the proposed regional ozone transport rule and the proposed regional haze rule which will better characterize the interactions between these various rules. Because of the changes to the various rules since the analyses were started it is not appropriate to just add the monetized costs and benefits of these rules together to come up with an overall cost and benefit of them collectively.

Also under Section 812(b) of the 1990 CAAA, Congress required EPA to look at the prospective costs (from 1990 into the future) of the Clean Air Act. This work is now underway. This analysis should be able to address the question about cumulative costs and benefits associated the Clean Air Act.

REGIONAL HAZE: COST OF VISIBILITY STANDARDS

Question. The proposed new regional haze rule is a major new regulatory initiative which will have a significant impact on numerous states, including Alabama.

Why is the EPA so actively pursuing the Regional haze State Implementation Plan by 1999 when the health based PM 2.5 standards are scheduled to go into effect in 2005?

Answer. Section 169B of the Clean Air Act calls for State to submit an Implementation Plan (SIP) on year from the promulgation of the regional haze regulation. Recent legislation has changed that one-year SIP submittal requirement to a varying schedule which is tied to designations of areas as attainment or unclassifiable for PM–2.5 or to plan revisions needed to address nonattainment areas. In the proposal EPA had established a schedule of commitments under the one-year SIP requirement which envisioned States developing control strategies in coordination with plan requirements for PM–2.5. The recent legislation is intended to authorize EPA to directly coordinate these SIP requirements. As with the original proposal, EPA's intent continues to be one of coordinating regional haze rule SIP control strategies dates with those for PM–2.5 implementation.

Question. How much would it cost to fully implement these new EPA visibility standards nationwide?

Answer. The proposed regional haze program would not establish a firm visibility "standard" to be achieved across the country, and measures to achieve progress in improving visibility will be determined by the States. As a result, it is not possible to do more than estimate the costs of implementation at this time. The draft regulatory impact analysis for the proposed regional haze program recognized the flexibility provided by the proposed rule by describing costs and benefits in terms of a likely range. The estimated annual costs range from $0.0 to $2.7 billion, and the estimated annual benefits range from $0.0 to $5.7 billion (in 1990 dollars). As EPA considers appropriate revisions to its rule the regulatory impact analysis will be revised to take such changes into account.

REGIONAL HAZE: STATE IMPLEMENTATION PLAN BY 1999

Question. Realizing that visibility issues are currently being addressed by the PM–10, PM–2.5, ozone, and acid rain rules, what additional reductions over the next 10 years does your science predict from the regional haze rule? Please list the additional public health benefits of the proposed ruling that are new to the benefits of the rulings listed above.

Answer. Reductions from other air quality programs will lead to improvements in visibility and can be taken into account in establishing progress targets. The recent transportation bill clarifies that the schedule for submissions of state plans addressing regional haze should be harmonized with the schedule for PM–2.5 SIP submissions. As noted in the response to the previous question, however, the States would have flexibility in establishing progress targets under the haze program, including the flexibility to take reductions from other air quality programs into account in establishing these targets. It is accordingly difficult to predict the extent of additional emission reductions that would be achieved over the next 10 years due to the regional haze program. The draft regulatory impact analysis (RIA) for the proposed regional haze rule evaluated a scenario in which targets of 1 deciview improvement in the worst visibility days over the next 10 years were achieved in all class I areas. In the RIA the annual benefits due to the regional haze program alone were estimated to range from $0 to $5.7 billion, including $4.5 billion attributed to additional public health benefits incremental to the PM–2.5 standard. The EPA intends to revise the RIA in conjunction with the final rule, and these estimates may change as a result of any changed assumptions in the proposed rule or proposed RIA.

Question. If this proposed rule is truly driven by public health concerns, why does it target areas in attainment?

Answer. The purpose of the proposed regional haze program, as required under section 169A of the Clean Air Act, is to improve visibility in mandatory class I Federal areas. These areas are primarily national parks and wilderness areas which are generally located in attainment areas. Because additional reductions in fine particles may result in additional public health benefits beyond what are expected from the PM–2.5 NAAQS for certain locations, these benefits were included in the regulatory impact analysis prepared for the proposed regional haze rule.

REGIONAL HAZE: DECIVIEW

Question. What is the EPA's definition of a deciview? Why are national state parks used for the Mandatory Class I areas?

Answer. The deciview scale is a scale for measuring haze, just like the Celsius scale is a scale for measuring temperature or the decibel scale is a scale for measuring noise levels. The deciview scale is set so that zero deciview is equal to no haze, just like zero degrees Celsius is set at the temperature that water freezes, and zero

decibel is often set to quiet conditions. A change of 1 deciview in either very hazy conditions or very clean conditions is considered just perceptible by the average person for many of the complex views of terrain and sky experienced from class I areas, just like a 1 decibel change in sound is considered perceptible whether in a quiet or loud room. Thus, the deciview scale characterizes visibility in constant increments related to human perception across the range of possible conditions (for example, from clear to hazy conditions). In general, an improvement of 1 deciview in a hazier environment will require a greater amount of emission reductions than an equivalent perceived change in a cleaner environment. This is analogous to having to shout to be heard in a noisy room versus speaking normally to be heard in a quiet room. The original paper describing the scientific basis for the deciview was published in Atmospheric Environment, a peer-reviewed journal (Pitchford (EPA) and Malm (NPS), "Development and Application of a Standard Visual Index," Atmospheric Environment, Vol. 28, No. 5, 1994).

The EPA includes national parks on the list of mandatory Class I areas because section 162 defines mandatory Federal Class I areas as all international parks, national wilderness areas and national memorial parks exceeding 5,000 acres, and national parks exceeding 6,000 acres, and which were in existence on August 7, 1972.

REGIONAL HAZE: INDUSTRY EMISSIONS STANDARD

Question. Is it possible that the proposed regional haze rule could result in emission standards being applied to industrial sources that are more stringent than standards that would be required under the ozone and particulate matter standards? If so, please explain.

Answer. The proposed regional haze rule would require that States develop a regional haze program to meet the Clean Air Act's (Act's) requirement for "reasonable progress," taking into account the factors set forth in the statute, i.e., the costs of compliance, the time needed for compliance, energy and nonair quality impacts of compliance, and the remaining useful life of existing sources. In light of these statutory factors, EPA believes that the Act provides States with considerable discretion regarding the regional haze program. Under the proposal, States would be able to develop integrated and coordinated programs for regional haze at the same time as they are developing plans for the new particulate matter standards, and to determine the best mix of strategies that meet the needs of both programs. Depending on the degree to which strategies to achieve PM 2.5 standards also contribute to visibility improvements, additional controls could be required for some number of sources. It is not possible for the Environmental Protection Agency to estimate at this time what sources might be affected or to what extent, as these questions depend upon decisions to be made by the States.

REGIONAL HAZE: CHANGES PROPOSED BY STATES

Question. It is my understanding that the EPA has received over 1,200 comments on the proposed rule. At least 43 states requested major changes to the proposal, including flexibility in control strategies, the use of regional planning efforts to implement the program, additional time to develop the SIP's and the alignment of the regional haze implementation schedule with that of PM 2.5 schedule. Will you take the additional time to make the changes, re-propose the rule, and allow for additional time for public comment?

Answer. The Environmental Protection Agency (EPA) is still in the process of evaluating the comments from States and all other stakeholders on the proposed rule and is considering options for several issues. If EPA decides based on these comments that significant changes to the rule are warranted, EPA would consider the need for reproposal at that time.

GLOBAL WARMING: KYOTO

Question. Under Secretary of State Eizenstat testified before the Senate that there is no administration intent to implement the Treaty without ratification. Additionally, he stated that no new authority is needed to implement the administration's plan to address global warming, except for the emissions trading program. What is your view of these comments?

Answer. As Administration witnesses have stated in recent Congressional hearings on this topic, the Administration will not implement the Kyoto Protocol before the Senate has provided advice and consent to its ratification. The President has, however, proposed that the United States take steps now that represent good environmental, economic, and energy policy. These steps include the domestic programs and tax credits in the fiscal year 1999 budget to help develop and deploy energy efficient and low pollution technologies. These voluntary measures, if fully funded

and enacted, will go a long way to turn around the trend of increasing U.S. emissions of greenhouse gases. They represent an economically prudent insurance policy against climate change risks, and our win-win initiatives.

As discussed in the attached legal opinion of the General Counsel of the Environmental Protection Agency, existing authority to address greenhouse gases does not easily lend itself to establishing a "cap-and-trade" emissions trading program, which the Administration believes would be the most flexible and cost-effective way to address greenhouse gas emissions across the economy. In his October 22, 1997, climate policy speech, the President proposed such an approach (based on our positive experience in controlling acid rain), but not for implementation before 2008.

GLOBAL WARMING

Question. What programs is the EPA currently involved with that relate to global warming? Please include a description of any direct funding to the states for programs. What is the funding level for these programs? How does this compare to last year's levels?

Answer. Below is a table outlining the programs the EPA is currently involved with that relate to Global Warming as well as the enacted spending plan for fiscal year 1998 and the fiscal year 1999 President's request.

	1998 Enacted plane	1999 President's budget
EPM Account	$72,478.9	$158,502.1
Industry Initiatives	20,893.9	51,600.0
Buildings	38,785.0	78,100.0
Carbon Removal	.....	3,400.0
Transportation	4,800.0	12,002.1
Engaging Developing Countries	5,000.0	8,400.0
State and Local Outreach	3,000.0	5,000.0
S&T Account	16,950.7	46,905.5
Transportation	16,950.7	46,905.5
Total	89,429.6	205,407.6

Since 1991, EPA has provided funding to states for global warming projects including analyzing the impacts of climate change on states, demonstrating energy efficient technologies and policies that result in greenhouse gas (GHG) reductions, conducting GHG emissions inventories and mitigation options, and educating stakeholders on the risks of climate change. In fiscal year 1997 and fiscal year 1998 the funding level was $2.0 million.

GLOBAL WARMING: CLIMATE CHANGE INFORMATION

Question. Has the administration, including the EPA, expanded climate change information in its public outreach efforts, such as agency web sites, publications and workshops? Please detail your Agency's activities pertaining to climate change information last year and all planned activities for 1998 and 1999. Please explain the organization and goals of the climate change workshops? How many taxpayer dollars are being spent on these activities?

Answer. In fiscal year 1998, EPA expanded its climate outreach program by improving our existing web site and increasing the number of regional conferences. Our outreach efforts were expanded in order to reach certain populations that are particularly vulnerable to or interested in the risks of climate change. EPA's material reflects their information needs.

The current outreach budget of $2.25 million provides outreach for five constituency areas: costal communities, innovative businesses, medical and public health professions, and meteorologists. Additional funding in fiscal year 1999 would include outreach to other at-risk areas, including agriculture, forestry, education, travel and tourism, and insurance. Such funding would also develop more in-depth workshops around the country to reach people unable to travel to the 10 EPA regional office locations where all workshops have been held to date.

GLOBAL WARMING: FISCAL YEAR 1998 EXTERNAL BUDGET

Question. How much of your fiscal year 1998 budget for climate change is used in the form of grants or contracts to outside organizations? In dollars, what is the

growth over the last three fiscal years? Please identify the organizations, the amount awarded and the purpose of the award.

Answer. Of the $90 million appropriated for fiscal year 1998 to EPA by Congress for the Climate Change Action Plan, approximately $75.6 million will be used in the form of extramural expenditures for grants and contracts. There has been no growth in this area over the last three fiscal years, in fact, levels have gone down since fiscal year 1995. Attached please find a listing of contracts and grants issued in fiscal year 1995, fiscal year 1996 and fiscal year 1997.

GLOBAL WARMING: CONFERENCES

Question. How much has the EPA spent in fiscal year 1998 funds to set-up or co-sponsor Conferences on implementation?

Answer. EPA has spent no fiscal year 1998 funds to set-up or co-sponsor conferences on implementation of the Kyoto Protocol. EPA does conduct climate change outreach activities in fulfillment of its commitment under the 1992 Framework Convention on Climate Change (Rio Treaty), as well as our broader obligation to educate the public about the environment. These activities are authorized under section 103 (a), (b) and (g) of the Clean Air Act, section 102(2)(F) of the National Environmental Policy Act, and section 1103 of the Global Climate Protection Act of 1987. The U.S. is also a Party, as ratified by the Senate, to the United Nations Framework Convention on Climate Change. Article 6 of the Convention specifically states the following:

In carrying out their commitments under Article 4, paragraph 1(i), the Parties shall:

(a) Promote and facilitate at the national and, as appropriate, subregional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:

—(i) the development and implementation of educational and public awareness programs on climate change and its effects;

—(ii) public access to information on climate change and its effects;

—(iii) public participation in addressing climate change and its effects and developing adequate responses.

EPA's climate change outreach efforts are designed to educate the American public about the science, economics, diplomacy, and technology regarding global warming. These efforts have been under way since fiscal year 1996.

GLOBAL WARMING: FLEXIBLE PHASE IN FROM 2008–2012

Question. Administration officials have argued that the flexible phase in from 2008–2012 will give the U.S. enough time to adopt the technology and new practices necessary to meet the targets with little economic sacrifice. However, the protocol stipulates that each participating nation shall, by 2005, have made demonstrable progress in achieving its commitments under the protocol. Doesn't achieving this goal require immediate implementation in order to obtain the reductions?

Answer. The Kyoto Protocol provides a decade of lead-time before any binding commitments take effect. During this time the Senate will have ample opportunity to consider whether to give advice and consent to implementing the Kyoto Protocol. The Protocol's call for "demonstrable progress" by 2005 is, by intention, not a specific, binding obligation like the emission limitation commitment for the period 2008–2012. In this respect, the 2005 goal is more like the 1992 Framework Convention's non-binding aim for the year 2000. Independent of the Kyoto Protocol, the Administration is pursuing a host of actions as a matter of good environmental and good energy policy—including efforts to promote energy efficiency, to increase the use of renewable forms of energy, to improve air quality, and to develop new technologies. Our efforts in these areas make sense with or without the Kyoto Protocol and will be good for businesses and consumers and good for our environment in either case. If the Protocol is ultimately ratified, these programs will easily fulfil any contemplated interpretation of the Protocol's 2005 goal.

TRI: CORRECT INFORMATION

Question. What action is the EPA taking to assure that information available to the public through the Toxic Release Inventory (TRI) and the Sector Facility Indexing Project is correct?

Answer. EPA has extensive quality assurance procedures in place to assure the accuracy of its TRI data. They include:

The TRI reporting software (the AFR, or Automated Form R), which is used for over 60 percent of forms, has a large variety of edit checks built in to check the data as they are entered and to prompt the user to correct errors as they occur.

When the data are submitted electronically like this, the possibility of keying errors is eliminated. Approximately two-thirds of the reports are submitted electronically.

For data that come in on paper and are keyed, there is also a variety of edit checks for the keyers.

Once the data are entered (or electronically uploaded), a number of other quality assurance/quality control steps are taken. These include:

—The Emergency Planning and Community Right to Know Act (EPCRA) Reporting Center performs duplicate/revision processing to ensure that Form R information that might have been sent in as a revision or a duplicate is not double-counted.

—EPA performs checks on all submissions that show annual release values of 500,000 pounds or greater per facility. We also check large increases or decreases based on previous years reporting.

—EPA mails to each TRI state contact State Reconciliation Reports, which are listings of facility-level data received for each state for the top 30 facilities with the highest releases for each environmental media; states can request listings for more facilities. We ask each state contact to check these reports and let us know if any information is missing or inaccurate. We also compare the holding of the state and Federal TRI collections to make sure that both have the same sets of facilities and chemicals.

—In order to check overall data entry, EPA takes a 3 percent sampling of hardcopy Form R data as represented on the system and compares them to actual submitted information. The EPCRA Reporting Center (EPA contractor) does a similar review: it checks 6 percent of the hardcopy forms. The Reporting Center also checks a small sampling of magnetic media data to make sure they translate correctly from the submitted diskettes to the system during Aupload.

The EPCRA Reporting Center notifies submitters of errors and gives them opportunities to submit revisions.

Release Value Reports are sent out for each form that is submitted. They display all the release values for the submitter's own review. (About 110,000 are sent to 38,000 facilities).

Finally, after all of these steps occur and the data are nearly ready for release to the public, Agency and contractor programmers make various runs against the database looking for anomalous situations for investigation. (For example, once we discovered that a facility reported that it had released several million pounds of metal to air, whereas in previous years it had reported 250 or 500 pounds; there was no keying error. There was, however, a reporting error that the facility then corrected.) When errors are found, they are investigated and the issue resolved.

In order to assess the quality of the data and to determine how to improve guidance to facilities subject to EPCRA section 313 reporting, EPA has undertaken voluntary data quality site surveys. The surveys are designed to assess how well facilities understand the TRI reporting requirements and, therefore, how well they prepare their TRI reports. The TRI data quality report that was produced with data collected from site visits for Reporting Years 1994 and 1995 is available on the Internet and can be accessed through the TRI home page. (www.epa.gov/opptintr/tri).

When facilities request to withdraw their data from the TRI database, EPA reviews their request to assess whether it is merited. EPA is considering instituting a similar procedure for requests to revise TRI data already in the database.

EPA worked for three years to identify the facilities to be included in the SFIP and to collect and verify the data. Each facility received a copy of its compliance and enforcement data for review to make sure that any problems were identified before the information was distributed through the SFIP. We also sent the corrections to EPA Regions and states to correct the underlying databases.

Prior to the industry data review, EPA specifically asked the states to review the data and make changes as appropriate. Based on these data reviews, EPA believes that the information in the underlying databases is generally of high quality.

The accuracy of the data depends upon reliable reporting by states, local agencies, and industry. Accuracy also depends on correct recording of information by regulatory agencies at local, state, and Federal levels. EPA will continue to work with stakeholders to ensure the highest quality and consistency of data in the SFIP.

TRI: EDUCATE PUBLIC ON EMISSIONS

Question. I was disturbed to learn that in one known instance, a group misused information available through TRI as part of a fund raising scheme. What is the EPA doing to educate the public that these emissions are fully reviewed by the EPA

and are within the limitations set by Federal Government as posing no significant health risk or harm to the public?

Answer. The Toxics Release Inventory (TRI) is a key element of EPA's right-to-know program. One of the key TRI documents available to the public, both electronically and in hard copy, is the annual TRI data release book. This book summarizes and explains the TRI data for a given year and includes information on trends over time. In explaining the TRI data, the Agency points out that the releases that are reported to TRI include both those that are the subject of permits under Federal, state or local statutes and those that are not. The Agency does not make assurances when issuing the TRI data that there are no significant health risks associated with the releases. The purpose of the TRI program is to provide communities with information to make assessments and decisions at the local level. The Agency is working to provide more and more tools to allow communities to assess the impact of releases reported to TRI.

Question. The Internet is a wonderful resource if properly managed. How is the EPA safe-guarding the integrity of its data and assure that it is not misused?

Data quality assurance procedures are the most important way in which EPA assures the integrity of its TRI data. A summary of these is provided as Attachment A below. In addition, to educate the public and to prevent misuse of the data the Agency provides the public with explanations of the TRI data and their limitations through a variety of media, including the annual data release book, brochures, newsletters, conferences and the internet. In addition to explaining the limitations associated with the data, these materials also explain how best to use the data, and direct the reader to other sources of information that are available to help users assess the potential impact of releases. The Agency also has TRI user support services that the public can access by phone or e-mail. These outreach materials and support services represent the Agency's concerted efforts toward assuring appropriate uses of TRI data, and preventing the misuse of the data.

ATTACHMENT A: TRI DATA QUALITY ASSURANCE PROCEDURES

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Prior to the industry data review, EPA specifically asked the states to review the data and make changes as appropriate. Based on these data reviews, EPA believes that the information in the underlying databases is generally of high quality.

The accuracy of the data depends upon reliable reporting by states, local agencies, and industry. Accuracy also depends on correct recording of information by regulatory agencies at local, state, and Federal levels. EPA will continue to work with stakeholders to ensure the highest quality and consistency of data in the SFIP.

TRI: ENVIRONMENTAL INFORMATION TO PUBLIC

Question. At one point, I recall an effort by the EPA's enforcement office under the GPRA to qualify violations in the variety of reports you release by including with the fine amount of information, whether there was human or environmental harm from the violation, what the company did to rectify the violation, whether the violation was voluntarily reported, etc. It is important that this information is included in the databases to more fully inform the public. What is the status of that proposal? What is the EPA's time frame to accomplish it?

Answer. EPA has moved forward with this proposal. The Agency is conducting a pilot project on case conclusion data sheets (CCDS) as a result of recommendations made by the Measures of Success Workgroup in March 1995. Under this project, EPA collects the following information for concluded administrative and judicial enforcement actions:

—Expected costs of compliance (i.e. injunctive relief costs);
—Type of actions taken to comply (e.g. industrial process change, emissions reduction, training);
—Names and amounts of pollutants to be reduced, prevented or controlled;
—Qualitative nature of the impact (e.g. human health or ecosystem protection); and,
—Details on Supplemental Environmental Projects, including costs and environmental benefits such as above.

In fiscal year 1995, EPA collected information on all concluded judicial orders and on compliance orders with penalties. In fiscal year 1996, EPA expanded the collection to include all administrative and judicial actions regardless of accompanying penalty.

Information from the data sheets was compiled and included with end of year reporting for 1995, 1996, and 1997. This information has been summarized and widely distributed to managers in the Agency. It has also been released publicly.

Additionally, one of the tasks under the National Performance Measures Strategy, which grew from a series of national stakeholders meetings with industry, environmental, community, academic, governmental and media groups (announced with the end-of-year press release in December 1997), is to conduct an evaluation of the case conclusion or expected environmental benefit data and the processes for creating that information, and to enhance its comprehensiveness and accuracy. The majority of this evaluation will be concluded by the end of fiscal year 1998.

TRI: GLOBAL WARMING POTENTIAL

Question. To what extent will your Agency's risk management activities take account of the global warming potential (GWP) of chemicals, production processes or facilities? Will the Sector Facility Indexing Project include GWP among the factors it examines?

Answer. The programs within the Office of Prevention, Pesticides and Toxic Substances under the authority of the Toxic Substances Control Act (TSCA) and the Pollution Prevention Act (PPA) include the New, Existing and Chemical Testing programs. These programs screen and manage the risks chemicals pose to human health and the environment. Risks to human health and the adverse effects on wildlife and ecosystems are the primary focus of the TSCA risk assessment. Risk screens focus on human toxicity, hazard and exposure.

The authority, granted under TSCA is the ultimate embodiment of pollution prevention, as it allows EPA to prevent the introduction of unacceptable toxic chemicals into the marketplace before they can harm public health or the environment. This pre-commercial evaluation also provides incentives for the swift introduction of safer alternatives to toxic chemicals. Through the Premanufacture Notification, Design for the Environment, Green Chemistry, and other efforts, EPA encourages the chemical industry at the earliest stages of research and design to produce and use safer, less polluting chemicals. EPA works with industry to identify methods to reduce all types of pollution in production process, and to prevent the transfer of pollution from one media to another. The Design for the Environment program, the Green chemistry program and the Environmentally Preferable Products program target separate audiences—manufacturers, chemistry researchers, and Federal purchasing agents—to promote and encourage safer products to preserve and protect human health and the environment.

The Sector Facility Indexing Project has no plans at this time to include GWP among the factors it examines. SFIP draws upon existing databases (i.e., AFS, PCS, RCRIS) which do not currently provide information regarding greenhouse effects.

CLEAN WATER: SECTION 106 GRANT PRIORITIES

Question. The Section 106 Operating Grant is the principal water quality operating grant received by the states from EPA. A part of this grant is for Ground Water Quality Management which in Alabama is unfunded by the state. Section 106 has been historically used to provide broad based assistance to the states. Since the decision to reallocate the funds is not statutory based, what prompted the EPA to act at this time?

Answer. Section 106(b) of the Clean Water Act (CWA) requires that the "* * * Administrator shall make allotments to the several States and interstate agencies * * * on the basis of the extent of the pollution problem in the respective States." EPA developed the current formula following passage of the 1972 Federal Water Pollution Control Act (FWPCA) Amendments. EPA determined that a fixed formula, rather than a yearly appraisal of needs would be the most effective way to allocate Section 106 funds. Four factors were selected as components of the formula: (1) number of industrial dischargers; (2) number of municipal dischargers; (3) number of nuclear, oil, coal and gas power plants; and (4) number of feedlots of more than 1,000 head. Population was also a determining factor in the formula. These factors are no longer appropriate, as they do not reflect the full range of concerns in water quality programs today and because the data used for each factor are more than 20 years old. EPA was prompted to revise the Section 106 formula at this time, to ensure that the fiscal year 1999 increase in requested 106 grant funds is distributed in a manner reflective of current State water quality programs and problems.

CLEAN WATER: STATE POSITION ON PRIORITIES

Question. This reallocation would eliminate a major component of Ground Water Management, for which no non-Federal dollars are available in Alabama and other states to fill in for the loss of these vital funds. What considerations are being given to the states' position on this matter.

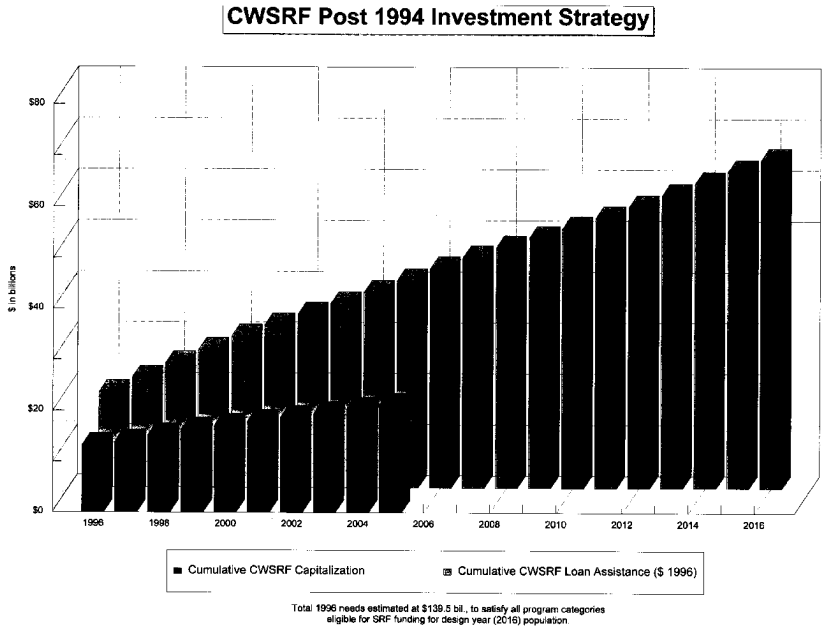
Answer. Groundwater protection continues to be a major priority for EPA. We expect to continue the Section 106 funding set-aside for groundwater. In addition, the Section 106 Formula State-EPA Revision Workgroup has recommended that groundwater be included as a factor in the revised Section 106 allocation formula. In addition to EPA Senior Management, seven States are represented on this workgroup to ensure full consideration of State positions on all components of the Section 106 program.

CLEAN WATER SRF: FUNDING LEVEL

Question. I am very concerned about the EPA's planned cuts to the Clean Water State Revolving Funds (CWSRF). This has been a very successful program across the country, including Alabama. Why does the EPA want to reduce funding to a program that is so positively embraced by the states?

Answer. The Agency agrees that the Clean Water SRF program has been very successful in providing low cost financing for communities with critical wastewater infrastructure and other needs. The fiscal year 1999 President's Budget request of $1.075 billion in no way compromises the Administration's long-term goal of capitalizing the Clean Water SRF so that it will provide at least $2 billion annually in assistance to communities to help fund critical water quality infrastructure projects on a continual basis.

The attached chart displays the cumulative capitalization of the Clean Water SRF assuming President's Budget funding levels and the cumulative loan assistance provided by the SRF using those same assumptions. As the chart indicates, the SRF will have provided over $64 billion in loan assistance by the year 2016 under the President's Budget funding assumptions (figures are in constant 1996 dollars). The cumulative loan assistance provided includes state revolving fund sources of funding in addition to the Federal capitalization, such as state match, loan repayments, bond proceeds and fund earnings. As already stated, the fiscal year 1999 Clean Water SRF request will help achieve the Administration goal of providing at least $2 billion in annual financial assistance through 2016 and well beyond. Also, when combined with the Drinking Water SRF request, the Administration will meet its goal of providing a total of $2.5 billion a year to communities for both wastewater and drinking water needs.



CLEAN WATER SRF: FEES AS PROGRAM INCOME

Question. Fees are paid to the states by borrowers, such as municipalities and water boards, for administrative expenses. States need to retain flexibility in the utilization to support services to these same borrowers. If designated program income by the EPA then restrictions, conditions and prohibition will come into effect which will eliminate flexibility by the states. Realizing the effects on the states, please explain why the EPA is proposing designating CWSRF fees as program income? Is the EPA also considering making this ruling retroactive? If so, please identify the year.

Answer. The use of fees paid by borrowers of Clean Water State Revolving Fund (CWSRF) loans is governed by EPA's general grant regulations at 40 C.F.R Part 31, which in turn are based on U.S. government-wide OMB circulars. The general grant regulations define program income as income received by a grantee of Federal funds that is directly generated by a grant supported activity. 40 C.F.R. 31.25(b). Under the general grant regulations, fees paid on CWSRF loans made from Federal capitalization grant funds are program income.

Under the general grant regulations, states retain the flexibility to use fees for administrative expenses of the CWSRF, for other purposes of the CWSRF program (funding publicly-owned treatment works, nonpoint source and estuary projects) and for state match. However, such fees may not be used to fund state activities unrelated to the CWSRF program. It has recently come to EPA's attention that some states may have already used some of these fees for purposes unrelated to the CWSRF program. EPA is currently assessing the extent to which fees have been used by states for unrelated purposes, and, in collaboration with the states, expects to complete the review and make a determination on this matter by the end of the fiscal year. Any necessary corrective action will be based on the results of the review.

QUESTIONS SUBMITTED BY SENATOR CAMPBELL

COLORADO'S ENVIRONMENTAL AUDIT LAW

Question. Why is the EPA attempting to stop this program when it has shown that it does help to protect the environment?

Answer. EPA is working with Colorado to ensure that the Colorado audit privilege and immunity law meets minimum Federal requirements for the administration of Federally-approved environmental programs. EPA has a statutory duty to ensure that states meet minimum Federal legal enforcement and information gathering requirements in order to maintain Federally-approved programs. Thus, EPA has worked with a number of states (i.e., Utah, Texas, Michigan, Virginia, and Wyoming) to resolve the legal issues with the respective states' audit privilege and immunity laws so that these laws would no longer pose a barrier to state administration of Federally-approved environmental programs. While the Agency is opposed to audit privilege and immunity laws as a matter of policy, when a state's audit privilege and immunity law meets minimum Federal requirements, EPA will not serve as a barrier to Federal authorization of state environmental programs to which it applies. EPA will continue to make every effort to work with Colorado officials to find a resolution that accommodates the interests of the State while meeting minimum Federal requirements.

According to information provided to EPA by state officials, since the Colorado audit privilege and immunity law became effective in 1995, Colorado has received 28 disclosures under the audit law and has resolved 23 of these, granting full immunity in 17 of the cases. Because Colorado's law contains evidentiary privilege provisions, however, an untold number of violations may be hidden in company files. This privilege denies Colorado regulators the information they need to determine the cause of violations, the environmental harm resulting from violations, and the steps needed to correct the violation and prevent recurrence. Additionally, in situations where citizens are threatened or harmed, the State should have immediate and unencumbered access to the best available information which may be present in an audit report. Any documents or other data related to environmental compliance under Colorado's law would have to be treated as presumptively privileged, denying the State and the public relevant information in emergency situations. Thus, the audit privilege law interferes with the State's ability to obtain the information it needs to protect human health and the environment with the public's right to know.

Colorado's audit privilege and immunity law also immunizes serious violations, including unpermitted discharges and those violations that are a result of criminal negligence. For example, under Colorado's law, a company can discharge pollutants into a stream without a permit and if the company performs an audit and promptly discloses the violation, the company will receive immunity for the unpermitted discharges. EPA has expressed the concern that these immunity provisions do not meet minimum Federal regulatory requirements for the administration of Federally-approved environmental programs. In addition, as a matter of public policy, EPA opposes statutory immunities such as Colorado's because they eliminate the important deterrent effect of penalties and allow companies that violate environmental laws to gain a competitive advantage over companies that invest in environmental compliance.

NATIONAL COMMISSION ON HIGHER EDUCATION

Question. How do you feel about the Cost Commission's recommendation that separate regulations should exist?

Answer. The Agency is aware of the problems faced by small universities in disposing of their laboratory wastes. EPA is currently putting together options on how to revise the hazardous waste manifest and related standards under the Resource and Recovery Act's (RCRA) program. As part of these manifest revisions, the Agency is studying ways to reduce the financial and paperwork burden placed on educational laboratories. To that end, EPA hopes to propose a system whereby wastes at university laboratories could be transported to a central consolidation point at the university under reduced requirements. These reduced requirements would include a more streamlined paper system and reduced record keeping as the waste moves from the various university buildings to the central consolidation site. After the material is consolidated it would be shipped offsite to a licensed treatment, storage, or disposal facility (or TSDF).

The Agency is currently reviewing a Project XL proposal from the New England Universities Laboratories that relates to this issue. If approved, the project would demonstrate one option for addressing the concern that existing RCRA regulations may not always be a good fit for university laboratories.

FQPA: PESTICIDE CANCELLATIONS

Question. Colorado produced $4.2 billion in agricultural sales in 1996, in large part because of the use of pesticides. A long list of pesticides used in Colorado to produce crops face immediate restrictions and or cancellations, and there are many new pesticides that have not been registered. What is the EPA proposing to do to insure that the farmers in Colorado will have some form of pesticide to use to produce their crops before the old ones are removed, and will they be as cost effective as the old pesticides?

Answer. EPA is committed to making every effort to ensure that farmers have the critical tools they need to grow our food. EPA wants all affected growers to be able to anticipate and plan for our actions. We are balancing tolerance reassessment with the introduction of new products and pest control methods to help ensure that both chemical and non-chemical alternatives are available.

EPA has stepped up its efforts to provide better, safer choices for pesticides for farmers. In the past few years, EPA has created two new programs aimed at expediting reviews and ultimately market entry of lower risk products and safer substitutes. The Agency created the Biopesticides and Pollution Prevention Division. The types of products registered in this Division generally have a non-toxic mode of action. By combining the risk managers with the review scientists in one division, we have been able to streamline the entire review process. About half of post-Food Quality Protection Act (FQPA) new active ingredients have been for biopesticides.

The second program, known as the Reduced-Risk Pesticide Program, has been in place since 1994. Applications that come in under the Reduced-Risk Program are placed at the head of the review queue. To date, 17 new chemicals have been approved as reduced risk alternatives. This program clearly provides an incentive for companies to develop lower-risk products and safer substitute products. Among the 13 chemicals currently under review as part of this program, 5 new active ingredients are potentially significant substitutes for some organophosphate registered uses for which reviews should be completed before tolerance reassessment on organophosphate pesticides is completed. As stated in the Vice President's April 8 memorandum on food safety, EPA is establishing an advisory process to ensure broad stakeholder involvement in the development and implementation of an approach to tolerance reassessment for organophosphate pesticides.

In addition, EPA works with USDA on a regular basis to ensure that the impact of its regulations and decisions on farmers is considered. EPA and USDA also have a Memorandum of Understanding to foster cooperative efforts to provide replacements for pesticides that are likely to be subject to cancellation or suspension by EPA, or are subject to voluntary cancellation based on risk or economic concerns. This program is particularly important for minor use crops, such as fruits and vegetables, which may face a lack of safe and effective pest management alternatives.

FQPA: DELANEY CLAUSE

Question. When the Food Quality Protection Act was passed, the EPA said that an extra margin of safety, put in place to protect infants and children, would be imposed only with evidence of health effects. But, already the provision has triggered the denial of two registrations for crop protection products used on cotton, even

though cotton is not a food crop and any chemical applied to it would result in little, if any, additional food exposure. Is this section of the act effectively replacing the Delaney clause and zero risk?

Answer. Although the main purpose for producing cotton is to produce fiber, cotton products such as seed and oil are used in food products. Also, pesticide residues found on cotton by-products used as animal feed may end up in meat and milk products. Risks from these sources cannot be assumed to be inconsequential. These pesticide residues must meet the same standard as any other pesticide residues found in food, the Food Quality Protection Act's (FQPA) "reasonable certainty of no harm."

FQPA: HYPOTHETICAL VS ACTUAL PESTICIDE USE

Question. Why are decisions being based on unrealistic hypothetical situations rather than on actual pesticide use?

Answer. EPA uses the best data available and does not base regulatory decisions on unrealistic, hypothetical situations. The law anticipates that the Agency would use real world data where available, and it does. EPA routinely uses monitoring data, field trials and other data to obtain a more accurate picture of actual use. The Agency also utilizes data on the actual percent of crop treated, which is often available. Where data are incomplete, EPA may compensate by using an additional uncertainty factor or making a reasonable health-protective assumption. This has long been EPA practice and the Food Quality Protection Act (FQPA) emphasizes the importance of uncertainty factors where data are incomplete. Where risk estimates are used, EPA relies on actual data supplemented with scientifically reviewed models and not on worst-case assumptions.

REGIONAL HAZE: TECHNICAL TOOLS

Question. Why didn't EPA include any technical tools in its regional haze proposal (e.g. to estimate the natural contribution to visibility impairment; allocate to sources the visibility impairing material measured in the mandatory Federal class I areas; or to quantify the ratio of costs and visibility benefits for incremental emission reductions)?

Answer. The Environmental Protection Agency believes that many technical tools are available already to address regional haze, and further guidance on the use of these tools is currently under development and expected to be available in time for States to prepare their control strategies. The availability of technical methods for visibility monitoring, modeling, and strategy assessment is discussed in the National Academy of Sciences 1993 report entitled "Protecting Visibility in National Parks and Wilderness Areas." This report was discussed in the preamble to EPA's proposed rule. One of the important findings in this report is that: "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility." Another important conclusion is the following:

> Visibility impairment can be attributed to emission sources on a regional scale through the use of several kinds of models. In general, the best approach for evaluating emission sources is a nested progression from simpler and more direct models to more complex and detailed methods. The simpler models are available today and could be used as the basis for designing regional visibility programs; the more complex models could be used to refine those programs over time.

In addition, monitoring data has been collected from 1988 to the present for 30 class I sites under the IMPROVE program. Chemical composition and trends data is available for each of these sites, providing important information needed to begin any process to estimate natural conditions, to perform source attribution studies, and to conduct modeling analyses. EPA also has a number of technical tools and guidance under development for implementing the program. The EPA is funding a significant expansion of the IMPROVE network and has a visibility monitoring guidance document under development. This expanded network will help the States, Federal land managers, and EPA to better estimate natural conditions. The EPA is developing the REMSAD and MODELS3 regional models which will help the States to estimate fine particles, their constituents, and the associated visibility levels for different scenarios. These models will be useful for developing future control strategies designed to attain the PM–2.5 standards and make reasonable progress under the regional haze program.

REGIONAL HAZE: FUNDING FOR REGIONAL MODELS

Question. How much money is being allocated by the agency to develop regional models?

Answer. The United States Environmental Protection Agency (U.S. EPA) has spent $6.1 million dollars in the latest two fiscal years (1997 and 1998) to develop regional models for fine particulates and regional haze. The majority of these funds were spent in the development of a scientifically advanced, but resource intensive regional model called MODELS3. A smaller amount of funds were spent in the development of a less scientifically rigorous and resource intensive regional model called REMSAD. U.S. EPA has budgeted an additional $2.3 million in fiscal year 1999 for the development and evaluation of these two regional models.

REGIONAL HAZE: GCVTC'S WRAP

Question. The Grand Canyon Visibility Transport Commission has established a successor organization, the Western Regional Air Partnership (WRAP) which includes State and Tribal leaders and Federal Agencies. The WRAP is struggling to develop many of the technical tools (e.g. emissions inventories, regional models, etc.) that should have been developed by EPA. Since the agency has failed to develop these tools, as required by Congress, should money be diverted from the agency and directed to the states or to regional organizations such as the WRAP, especially since these tools will be necessary to implement the very prescriptive regional haze program by the agency?

Answer. The Environmental Protection Agency worked closely with the Grand Canyon Visibility Transport Commission, the predecessor to the WRAP, in the application of modeling and assessment tools. The Agency has more recently developed a regional modeling system and is ready to work with the WRAP in applying it to their area. The proposed regional haze program does not require immediate strategies to be adopted by the States, but rather envisions a period of assessment and strategy development that is coordinated with implementation of the health standards. Such time will allow the States and EPA, perhaps through organizations of like the WRAP, to address all the technical needs in developing a strategy to make reasonable progress toward the national visibility goal.

REGIONAL HAZE: GCVTC RECOMMENDATIONS

Question. Given the fact that the GCVTC states have done a study and have developed recommendations for improving visibility on the Colorado Plateau, why didn't the agency indicate in the regional haze proposal that following through with the Commission's recommendations would constitute reasonable progress toward the national visibility goal?

Answer. The Environmental Protection Agency did summarize the strategies developed by the Commission explicitly in the preamble of the proposed regional haze rule. The Agency specifically requested comment on how to address these strategies, which are specific to certain states and applicable to only 16 of 156 mandatory Federal Class I areas nationwide, within its national rule. At the time of the proposal, the Agency did not believe that it would be appropriate to mandate the GCVTC strategies for all States to follow across the country in its national rule. The EPA is currently evaluating all comments received on this issue and intends to be responsive to them in the final rule.

REGIONAL HAZE: ADDITIONAL IMPROVE MONITORS

Question. Why did the agency instead decide to propose a one deciview target when that approach was rejected by Congress in 1990? What are the agency's plans for deploying additional IMPROVE monitors (especially in urban centers or intermediate transport centers) to fill the data gaps to validate regional haze models?

Answer. Some comments have characterized the 1 deciview improvement every 10 or 15 years in the proposed regional haze rule as an absolute standard, similar to the Environmental Protection Agency's (EPA's) air quality standards. This is not accurate. In the proposal, EPA proposed to give the States flexibility to propose alternate targets that would be more suitable to their situation. Because of this flexibility, the proposed 1 deciview target would not be a mandatory target.

The EPA plans to deploy an additional 78 IMPROVE sites in or near Federal Class I areas. Twenty additional sites will be established in 1998 and the other 58 in 1999. In addition, visibility-related information can be derived from PM 2.5 monitors. Fine particles are principally responsible for visibility impairment and a statistical relationship exists between fine particle mass and light extinction. In addition, all PM 2.5 monitors permit at least limited chemical speciation. Speciated data

provides a basis for developing reliable estimates of seasonal and annual average visibility conditions. Accordingly, the dense network of PM2.5 monitors which is currently under development will help identify the extent of regional haze and contributing sources. Although the monitors will largely be located in urban areas, the trends in urban air quality and related urban visibility will help track reductions in regional emissions which are responsible for impairment of visual range in rural areas. In addition, many of the PM 2.5 network's regional transport and regional background monitors are expected to provide the capability for full chemical speciation. This will supplement the characterization of particles in rural areas which affect visual range.

QUESTIONS SUBMITTED BY SENATOR CRAIG

COEUR D'ALENE BASIN

Question. Can you tell me whether EPA has expanded the site beyond the 21 square mile "Superfund Box" designated by EPA nearly 5 years ago? If it has been done, can you tell me exactly when that was done and whether the public was invited to participate in the decision making process? Please cite the statutory and regulatory authority used to complete this action and provide the legal reasoning used to apply this authority to the instant case. Please provide any scientific evidence used as a basis for EPA action in this area with an explanation as to how the relied upon evidence supports EPA's action.

Answer. EPA has not "expanded" the Bunker Hill site. Pursuant to section 105 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9605(c), implemented through the National Contingency Plan (NCP), 40 C.F.R. Part 300, EPA listed the "Bunker Hill Mining and Metallurgical" complex on the National Priorities List (NPL) in 1983. See 40 C.F.R. Part 300, App. B, Table 1. In the Hazard Ranking System (HRS) evaluation supporting the NPL listing, the Bunker Hill facility was described by reference to releases of hazardous substances in the South Fork of the Coeur d'Alene River, down the Coeur d'Alene River to Coeur d'Alene Lake. Documentation Records for Hazard Ranking System, Bunker Hill Smelter, at 10 (June 28, 1982). In accordance with the NCP, the HRS documentation supporting the Bunker Hill NPL listing was made available for public comment prior to the final listing in 1983. Public comments were received from a number of parties, and EPA prepared a written response to these comments. See EPA Office of Solid Waste and Emergency Response, Support Document for the National Priorities List at 11–3 (Sept. 1983).

Nowhere in the HRS documentation for Bunker Hill is the NPL facility limited to the 21 square mile "Superfund box" commonly known as the "Bunker Hill Superfund Site." This area was identified by EPA after the 1983 NPL listing as the priority for EPA's efforts based on concerns for human health related largely to the areal deposition of emissions from the lead smelter. Because the original NPL listing for Bunker Hill was not limited to the "Superfund box," there is no cause now for formally "expanding the site." There is, however, a need for determining—with finality—the extent of this contamination, the risks associated with this contamination, and the actions to address any identified risks. These determinations will be made through the Remedial Investigation/Feasibility Study (RI/FS) that EPA has begun for the Coeur d'Alene Basin. The results of this RI/FS will be documented in a Record of Decision, which will be supported by scientific evidence and take into account a number of other factors, including cost effectiveness and community concerns. EPA is currently involved in developing a community relation plan (CPR) to map out community involvement.

COEUR D'ALENE: IDAHO'S ROLE

Question. I understood that EPA is committed to work cooperatively with the state of Idaho and the local community in resolving the issues associated with the Basin. If that is still true, will EPA allow the state of Idaho to take a lead role in assessing the level of remediation that needs to be completed, creating a cleanup plan acceptable to the local community and facilitating a fair settlement with the potentially responsible parties? Can EPA act on contaminants that do not exceed drinking water standards?

Answer. EPA is committed to working cooperatively with the State of Idaho and the local communities in resolving the issues concerning mining contamination in the Coeur d'Alene Basin. EPA is also committed to working cooperatively on these issues with the State of Washington, the Coeur d'Alene Tribe, the U.S. Department of the Interior, the U.S. Forest Service, mining companies, environmental groups,

and other interested parties. Because of the number of parties and complexity of issues, impacting separate municipal, county, state, tribal, and Federal jurisdictions, EPA has assumed the lead for conducting the RI/FS.

An early element of the RI/FS process is the development of a Community Relations Plan (CRP). See NCP § 300.430(c). In accordance with the NCP, we are currently conducting community interviews and organizing public meetings in support of a Basin-wide CRP. The CRP will undergo public comment and will identify ways that the communities will be represented throughout this process.

As to drinking water standards, EPA can act on contaminants that do not exceed drinking water standards. In developing the comprehensive cleanup plan for the Basin, EPA can and will consider a number of ways that people and other environmental receptors may be exposed to mining contamination. Ingestion through drinking water is one of these pathways. As such, drinking water standards represent just one set of potentially Applicable or Relevant and Appropriate Requirements that any final cleanup action must often meet, according to CERCLA. Human or other environmental receptors may also be exposed to contaminants through other pathways including inhalation (e.g. breathing in contaminated dust) and dermal exposure (e.g. playing on contaminated soils). In some cases where health standards are not already set, or are otherwise inappropriate, EPA may set standards based on the risk calculated for a particular area. This process is being followed to determine cleanup levels for lead in residential soils in the Basin.

COEUR D'ALENE: EXPANSION OF ACTIVITIES IN REGION

Question. Is EPA expanding its activities in the region because of a lawsuit?

Answer. EPA is not undertaking its activities in the Coeur d'Alene Basin because of the Tribe's lawsuit. Under the lawsuit filed by the U.S. Department of Justice in 1996 concerning the Basin, which includes claims for EPA's past and future CERCLA response costs, EPA has an obligation to determine its potential future response costs in the Basin. EPA decided to satisfy this obligation through an RI/FS because the RI/FS process by law requires scientific and public involvement, and can help integrate other environmental programs including natural resource restoration and Total Maximum Daily Loads (TMDL) implementation under the Clean Water Act. Through the RI/FS process, EPA is now committed to developing a scientifically sound cleanup plan for the Basin in a reasonable timeframe with the participation of all interested parties. EPA believes that this cleanup plan may ultimately serve as the basis for a fair, comprehensive settlement with all parties involved.

COEUR D'ALENE BASIN STUDIES

Question. Am I correct in stating that studies costing millions of dollars have been conducted in the Basin? If so, why can't EPA make a decision based on the information collected and analyzed to date? What is it that EPA is looking for? Is EPA simply searching for a problem in the Basin?

Answer. You are correct that health and environmental studies costing millions of dollars have been conducted in the Basin. These studies have been conducted over the years by a range of private parties, including Gulf Resources, and government agencies, including EPA, the Idaho Department of Health and Welfare, and the Federal natural resource trustees. These studies collectively provide a wealth of data that EPA will use as it assesses the need for further cleanup actions in the Basin. However, as we indicated to you in our letter dated March 27, 1998, additional sampling has been and will be necessary to fully evaluate cleanup needs and alternatives. Beyond this additional sampling, as we previously indicated, substantial analytical work must be completed in order to identify the risks implied by these data and the cleanup actions necessary to address these risks.

Through its RI/FS for the Coeur d'Alene Basin, EPA is looking to identify those areas of the Basin where mining contamination poses an unacceptable risk to human health or the environment. EPA's responsibilities are not limited to protecting human health. EPA also has an affirmative responsibility to protect the environment in the Basin, including the health of fish and wildlife. See 42 U.S.C. 9604(a) (The President, through EPA, authorized to take any response measure necessary to protect "public health or welfare or the environment"). As just one example, the continuing injuries to waterfowl such as the tundra swans in wetlands of the lower Basin provide strong indication that there is an environmental problem demanding EPA's attention. In conjunction with identifying the extent of the problems in the Basin, EPA, with public involvement, will be looking for ways to fix these continuing problems.

COEUR D'ALENE COOPERATIVE APPROACH

Question. Will EPA, as lead agency under the CERCLA, require a more cooperative approach on the part of the Coeur d'Alene Indian Tribe and the U.S. Department of Justice?

Answer. As you know, the Department of Justice filed the pending suit under CERCLA, not only on behalf of EPA, but also on behalf of the Departments of Interior and Agriculture. By law, the conduct of litigation is generally reserved to the Department of Justice. 28 U.S.C. § 516. The Tribe has authority as a sovereign to assert claims for damages to natural resources under CERCLA, and the Tribe filed a separate lawsuit under this legal authority. Notwithstanding the independent authorities under which these entities function, EPA will work to foster cooperation among all interested parties, in order to produce a comprehensive cleanup plan for the Basin. In order to facilitate this cooperation, EPA has supported the hiring of a third-party neutral to assess the relevant issues and make recommendations on whether and how alternative dispute resolution may be productive.

GLOBAL CLIMATE CHANGE: CO_2 REGULATIONS

Question. Has EPA in the past considered, or is it currently contemplating, regulations that would control emissions of carbon dioxide? Are you aware of any internal memoranda that discusses or addresses this issue? Are you aware of any policy or legal memoranda prepared by EPA, any Department or agency of the Executive Branch, or any other person or entity within the Administration that either discusses or addresses this issue?

Answer. The EPA has no current or planned activities to use the Clean Air Act or any other existing law to propose or promulgate regulations that place limits on carbon dioxide emissions. The April 10, 1998, EPA legal opinion submitted in response to Congressman DeLay's request addresses EPA's authority to regulate emissions of carbon dioxide from electric power generation sources under the Clean Air Act (see attachment). As the opinion states, the Administrator has made no determination to exercise that authority. The opinion also notes that the existing Clean Air Act authorities potentially applicable to carbon dioxide do not easily lend themselves to establishing market-based cap-and-trade programs, which the Administration favors for addressing this kind of pollution problem.

JURISDICTION UNDER CLEAN AIR ACT

Question. Please provide ALL legal memoranda prepared at any time by the EPA's Office of the General Counsel that discusses or addresses the issue whether EPA has jurisdiction under the Clean Air Act, or any other Federal law, to place limits on the emissions of carbon dioxide. Include any legal memoranda obtained from any Department or agency of the Executive Branch, or any other person or entity within the Administration that either discusses or addresses this issue.

Answer. Attached is a legal opinion entitled "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources," Memorandum from Jonathan Z. Cannon, General Counsel, to Carol M. Browner, Administrator, April 10, 1998. This is the only legal memorandum prepared by EPA on this subject.

MEMORANDUM

SUBJECT: EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources
FROM: Jonathan Z. Cannon, General Counsel
TO: Carol M. Browner Administrator

I. INTRODUCTION AND BACKGROUND

This opinion was prepared in response to a request from Congressman DeLay to you on March 11, 1998, made in the course of a fiscal year 1999 House Appropriations Committee Hearing. In the Hearing, Congressman DeLay referred to an EPA document entitled "Electricity Restructuring and the Environment: What Authority Does EPA Have and What Does It Need." Congressman DeLay read several sentences-from the document stating that EPA currently has authority under the Clean Air Act (Act) to establish pollution control requirements for four pollutants of concern from electric power generation: nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon dioxide (CO_2), and mercury. He also asked whether you agreed with the statement, and in particular, whether you thought that the Clean Air Act allows EPA to regulate emissions of carbon dioxide. You agreed with the statement that the Clean Air Act grants EPA broad authority to address certain pollutants, including those listed, and agreed to Congressman DeLay's request for a legal opinion on this

point. This opinion discusses EPA's authority to address all four of the pollutants at issue in the colloquy, and in particular, CO_2, which was the subject of Congressman DeLay's specific question.

The question of EPA's legal authority arose initially in the context of potential legislation addressing the restructuring of the utility industry Electric power generation is a significant source of air pollution, including the four pollutants addressed here. On March 25, 1998, the Administration announced a Comprehensive Electricity Competition Plan (Plan) to produce lower prices, a cleaner environment, increased innovation and government savings. This Plan includes a proposal to clarify EPA's authority regarding the establishment of a cost-effective interstate cap and trading system for NO_X reductions addressing the regional transport contributions needed to attain and maintain the primary National Ambient Air Quality Standards (NAAQS) for ozone. The Plan does not ask Congress for authority to establish a cap and trading system for emissions of carbon dioxide from utilities as part of the Administration's electricity restructuring proposal. The President has called for cap-and-trade authority for greenhouse gases to be in place by 2008, and the Plan states that the Administration will consider in consultation with Congress the legislative vehicle most appropriate for that purpose.

As this opinion discusses, the Clean Air Act provides EPA authority to address air pollution, and a number of specific provisions of the Act are potentially applicable to control these pollutants from electric power generation. However, as was made clear in the document from which Congressman DeLay quoted, these potentially applicable provisions do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems.

II. CLEAN AIR ACT AUTHORITY

The Clean Air Act provides that EPA may regulate a substance if it is (a) an "air pollutant," and (b) the Administrator makes certain findings regarding such pollutant (usually related to danger to public health, welfare, or the environment) under one or more of the Act's regulatory provisions.

A. Definition of Air Pollutant

Each of the four substances of concern as emitted from electric power generating units falls within the definition of "air pollutant" under section 302(g). Section 302(g) defines "air pollutant" as:

> any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent that the Admmistrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

This broad definition states that "air pollutant" includes any physical chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air. SO_2, NO_X, CO_2 and mercury from electric power generation are each a "physical [and] chemical * * * substance which is emitted into * * * the ambient air," and hence, each is an air pollutant within the meaning of the Clean Air Act.[1]

A substance can be an air pollutant even though it is naturally present in air in some quantities. Indeed, many of the pollutants that EPA currently regulates are naturally present in the air in some quantity and are emitted from natural as well as anthropogenic sources. For example, SO_2 is emitted from geothermal sources; volatile organic compounds (precursors to ozone) are emitted by vegetation; and particulate matter and NO_X are formed from natural sources through natural processes, such as naturally occurring forest fires. Some substances regulated under the Act as hazardous air pollutants are actually necessary in trace quantities for human life, but are toxic at higher levels or through other routes of exposure. Manganese and selenium are two examples of such pollutants. EPA regulates a number of naturally occurring substances as air pollutants, however, because human activities have

[1] See also section 103(g) of the Act (authorizes EPA to conduct a basic research and technology program to develop and demonstrate nonregulatory strategies and technologies for air pollution prevention, which shall include among the program elements "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur oxides, nitrogen oxides, heavy metals, PM–10 (particulate matter), carbon monoxide, and carbon dioxide, from stationary sources, including fossil fuel power plants.").

increased the quantities present in the air to levels that are harmful to public health, welfare, or the environment.

B. EPA Authority to Regulate Air Pollutants

EPA's regulatory authority extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO_2, NO_X, CO_2, and mercury emitted into the ambient air. Such a general statement of authority is distinct from an EPA determination that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act. A number of specific provisions of the Act are potentially applicable to these pollutants emitted from electric power generation.[2] Many of these specific provisions for EPA action share a common feature in that the exercise of EPA's authority to regulate air pollutants is linked to a determination by the Administrator regarding the air pollutants' actual or potential harmful effects on public health, welfare or the environment. See, e.g., sections 108, 109, 111(b), 112, and 115. See also sections 202(a), 211(c), 231, 612, and 615. The legislative history of the 1977 Clean Air Act Amendments provides extensive discussion of Congress' purposes in adopting the language used throughout the Act referencing a reasonable anticipation that a substance endangers public health or welfare. One of these purposes was "[t]o emphasize the preventative or precautionary nature of the act, i.e. to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health." H.R. Rep. No. 95–294, 95th Cong., 1st Sess, at 49 (Report of the Committee on Interstate and Foreign Commerce). Another purpose was "[t]o assure that the health of susceptible individuals, as well as healthy adults, will be encompassed in the term 'public health,' * * *" Id. at 50. "Welfare" is defined in section 302(h) of the Act, which states:

> [a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.[3]

EPA has already regulated SO_2, NO_X and mercury based on determinations by EPA or Congress that these substances have negative effects on public health, welfare, or the environment. While CO_2, as an air pollutant, is within EPA's scope of authority to regulate, the Administrator has not yet determined that CO_2 meets the criteria for regulation under one or more provisions of the Act. Specific regulatory criteria under various provisions of the Act could be met if the Administrator determined under one or more of those provisions that CO_2 emissions are reasonably anticipated to cause or contribute to adverse effects on public health, welfare, or the environment.

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[2] See e.g., section 108 (directs Administrator to list and issue air quality criteria for each air pollutant that causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare and that is present in the ambient air due to emissions from numerous or diverse mobile or stationary sources); section 109 (directs Administrator to promulgate national primary and secondary ambient air quality standards for each air pollutant for which there are air quality criteria, to be set at levels requisite to protect the public health with an adequate margin of safety (primary standards) and to protect welfare (secondary standards)); section 110 (requires states to submit state implementation plans (SIP's) to meet standards); section 111(b) (requires Administrator to list, and set Federal performance standards for new sources in, categories of stationary sources that cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare); section 111(d) (states must establish performance standards for existing sources for any air pollutant (except criteria pollutants or hazardous air pollutants) that would be subject to a performance standard if the source were a new source); section 112(b) (lists 188 hazardous air pollutants and authorizes Administrator to add pollutants to the list that may present a threat of adverse human health effects or adverse environmental effects); section 112(d) (requires Administrator to set emissions standards for each category or subcategory of major and area sources that the Administrator has listed pursuant to section 112(c)); section 112(n)(l)(A) (requires Administrator to study and report to Congress on the public health hazards reasonably anticipated from emissions of listed hazardous air pollutants from electric utility steam generating units, and requires regulation if appropriate and necessary); section 115 (Administrator may require state action to control certain air pollution if, on the basis of certain reports, she has reason to believe that any air pollutant emitted in the United States causes or contributes to air pollution that may be reasonably anticipated to endanger public health or welfare in a foreign country that has given the United States reciprocal rights regarding air pollution control); Title IV (establishes cap-and-trade system for control of SO_2 from electric power generation facilities and provides for certain controls on NO_X).

[3] The language in section 302(h) listing specific potential effects on welfare, including the references to weather and climate, dates back to the 1970 version of the Clean Air Act.

C. EPA Authority to Implement an Emissions Cap-and-Trade Approach

The specific provisions of the Clean Air Act that are potentially applicable to control emissions of the pollutants discussed here can largely be categorized as provisions relating to either state programs for pollution control under Title I (e.g., sections 107, 108, 109, 110, 115, 126, and Part D of Title I), or national regulation of stationary sources through technology-based standards (e.g., sections 111 and 112). None of these provisions easily lends itself to establishing market-based national or regional emissions cap-and-trade programs.[4]

The Clean Air Act provisions relating to state programs do not authorize EPA to require states to control air pollution through economically efficient cap-and-trade programs and do not provide full authority for EPA itself to impose such programs. Under certain provisions in Title I, such as section 110, EPA may facilitate regional approaches to pollution control and encourage states to cooperate in a regional, cost-effective emissions cap-and-trade approach (see Notice of Proposed Rulemaking: Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 F.R. 60318 (Nov. 7, 1997)). EPA does not have authority under Title I to require states to use such measures, however, because the courts have held that EPA cannot mandate specific emission control measures for states to use in meeting the general provisions for attaining ambient air quality standards. See *Commonwealth of Virginia* v. *EPA*, 108 F.3d 1397 (D.C. Cir. 1997). Under certain limited circumstances where states fail to carry out their responsibilities under Title I of the Clean Air Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program.[5] Yet EPA's ability to invoke these provisions for Federal action depends on the actions or inactions of the states.

Technology-based standards under the Act directed to stationary sources have been interpreted by EPA not to allow compliance through intersource cap-and-trade approaches. The Clean Air Act provisions for national technology-based standards under sections 111 and 112 require EPA to promulgate regulations to control emissions of air pollutants from stationary sources. To maximize the opportunity for trading of emissions within a source, EPA has defined the term "stationary source" expansively, such that a large facility can be considered a "source." Yet EPA has never gone so far as to define as a source a group of facilities that are not geographically connected, and EPA has long held the view that trading across plant boundaries is impermissible under sections 111 and 112. See, e.g., National Emission Standards for Hazardous Air Pollutants for Source Categories; Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 59 Fed. Reg. 19402 at 19425–26 (April 22, 1994)

III. CONCLUSION

EPA's regulatory authority under the Clean Air Act extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO_2, NO_X, CO_2, and mercury emitted into the ambient air. EPA has in fact already regulated each of these substances under the Act, with the exception of CO_2. While CO_2 emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act.

With the exception of the SO_2 provisions focused on acid rain, the authorities potentially available for controlling these pollutants from electric power generating sources do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems. Under certain limited circumstances, where states fail to carry out their responsibilities under Title I of the Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program. However, such authority depends on the actions or inactions of the states

[4] Title IV of the Act provides explicit authority for a cap and trade program for SO_2 emissions from electric power generating sources.

[5] For example, section 110(c) requires EPA to promulgate a Federal implementation plan where EPA finds that a state has failed to make a required submission of a SIP or that the SIP or SIP revision does not satisfy certain minimum criteria, or EPA disapproves the SIP submission in whole or in part. In addition, section 126 provides that a State or political subdivision may petition the Administrator for certain findings regarding emissions from certain stationary sources in another state. If the Administrator grants the petition, she may establish control requirements applicable to sources that were the subject of the petition.

AUTHORITY TO CAP CO_2 EMISSIONS

Question. Will you pledge to the Committee that EPA will not seek any Administration approval to use any existing authority it thinks it might have to cap carbon dioxide emissions? If not, please explain, in full and complete technical and legal detail, why you cannot make this pledge.

Answer. The EPA has no plans to regulate emissions of carbon dioxide under existing legal authority. EPA's General Counsel noted in an April 10, 1998, legal opinion that the agency's current legal authority does not easily lend itself to establishing a broad cap-and-trade program of this kind.

CO_2 EMISSIONS STATE REGULATIONS

Question. Are you aware of any EPA efforts to discuss with state governments or urge state governments to regulate, or in some way control, CO_2 emissions? If so, what is being discussed, or proposed, and what kind of responses are you getting from the states? What line item in Congressional appropriations to EPA is enabling EPA to fund this activity?

Answer. EPA does not have any efforts to urge state governments to regulate CO_2 emissions. EPA does, however, have several ongoing activities with state governments to assist them in voluntarily reducing greenhouse gas emissions consistent with the 1992 Framework Convention on Climate Change. Historically, funds have been appropriated to EPA for Climate Change Action Plan activities through the Abatement, Control and Compliance and the Environmental Programs and Management Appropriations.

—EPA has supported voluntary development of climate change action plans for states through the State and Local Outreach Program, one of the President's Climate Change Action Plan voluntary initiatives since 1993. EPA supports these efforts as a means to increase awareness of climate change and build capacity at the state level. To date, nine states, out of twenty-four participating, have completed climate change action plans. These efforts are consistent with our general international obligations under the United Nations Framework Convention on Climate Change (FCCC), which the Senate ratified, to work toward reducing greenhouse gas emissions.

—In July 1997, the U.S. EPA began an effort that may provide states with increased flexibility for meeting the National Ambient Air Quality Standards at reduced compliance costs, while reducing emissions of greenhouse gases. EPA has organized a workgroup to identify and evaluate ways in which accelerated adoption of energy efficiency and renewable energy in the residential, commercial and industrial sectors can reduce emissions of criteria pollutants such as NO_X and particulates while reducing the amount of carbon dioxide released due to production and use of energy. The workgroup comprises air and energy program representatives from each of six states (California, Indiana, Massachusetts, Montana, New York and Wisconsin) as well as the National Association of State Energy Officials (NASEO) and the State and Territorial Air Pollution Program Administrators (STAPPA).

—Many of the climate partnership programs, even those that don't focus on states, work with state governments to help them voluntarily control their own energy usage and greenhouse gas emissions through specific projects. These programs work with the states to achieve the same objectives as with other partners—profitable investments in technologies that also reduce emissions. The states' responses to these programs have been positive. For example, the Energy Star Buildings and Green Lights program has partnerships with more than 20 states. These states have already saved over $50 million on their energy bills while eliminating more than 800 tons of nitrogen oxides and more than 250,000 tons of carbon dioxide.

KYOTO PROTOCOL

Question. Are you aware of any EPA sponsored or co-sponsored public events, conferences, seminars, workshops, or town hall type meetings that include agendas or agenda items that encourage discussion of global climate change issues? If so, under what legal authority are these events being held, and what line item in the Congressional appropriations to EPA is enabling EPA to participate in, or conduct this activity? Please submit a list of all of these types of public events, and include copies of the agendas, the type of notice used to inform the public or portions of the public, and any list of speakers with their titles and credentials. Also include in that response an explanation of efforts made to make those events open and the speaker list balanced in point of view?

Answer. EPA is conducting climate change outreach activities in fulfillment of its commitment under the 1992 Framework Convention on Climate Change (Rio Treaty), as well as our broader obligation to educate the public about the environment. These activities are authorized under section 103 (a), (b) and (g) of the Clean Air Act, section 102(2)(F) of the National Environmental Policy Act, and section 1103 of the Global Climate Protection Act of 1987. These efforts are designed to educate the American public about the science, economics, diplomacy, and technology regarding global warming. These efforts have been under way since fiscal year 1996 and are consistent with U.S. obligations under the 1992 Framework Convention on Climate Change, as ratified by the Senate.

Article 6 of the Convention specifically states the following:

In carrying out their commitments under Article 4, paragraph 1(i), the Parties shall:

(a) Promote and facilitate at the national and, as appropriate, subregional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:

—(i) the development and implementation of educational and public awareness programs on climate change and its effects;

—(ii) public access to information on climate change and its effects;

—(iii) public participation in addressing climate change and its effects and developing adequate responses.

These activities are focused on providing information on the science of global climate change and engaging in a public dialogue on climate change issues. The specific objectives of our conferences are: (1) to inform the public and policy makers on the science of global warming and policy issues affecting global climate change; (2) to provide an opportunity for stakeholders, including state and local governments, business, industry, public health agencies, community organizations, academic and scientific institutions, and other concerned constituents to learn about the state of global climate change science; (3) to provide a balanced perspective on the potential risks of climate change—both economic and environmental; (4) to identify strategies to reduce the risks associated with climate change; and (5) to identify innovative opportunities for reducing greenhouse gas emissions.

EPA regional conferences are open to the public (see attached announcements) and our speakers represent both sides of the climate change debate. Attached, for your review, are the conference agendas which include a list of speakers and their credentials.

KYOTO PROTOCOL: JOHN HEINZ FOUNDATION

Question. Are you aware of any efforts on the part of the John Heinz Foundation (or Center) to design one or more legislative or regulatory programs that would enable or assist the United States to achieve compliance with the Kyoto Protocol? Is EPA involved in any way with this project—either by detailing staff to assist the Foundation (or Center) with this task, or by providing funds either directly or indirectly through grants or other methods of financial support, or by providing guidance through technical or legal advice?

Answer: The Heinz Center for Science, Economics and the Environment is conducting an effort to examine the design issues associated with alternative emission trading programs. The President has proposed a domestic emissions trading system to begin by 2068, after a decade of experience in reducing emissions. Efforts such as the Heinz Center's contribute to an informed public debate. The project is receiving funding from EPA, the Andrew W. Mellon Foundation, and the Vira I. Heinz Endowment. The EPA funding is in the form of a cooperative agreement. No EPA staff have been detailed to the Heinz Center to support this effort. However, two EPA staff serve on a 15 member panel that meets periodically to provide technical input on the Heinz Center Effort. Other panel members are from academic institutions, private industry, environmental groups, and the Department of Energy. No legal advice is provided by EPA.

KYOTO PROTOCOL: PROPOSAL FOR LEGISLATION

Question. Has EPA been asked by any Department, agency of the Executive Branch, interagency body, or any other person or entity within the Administration to develop potential proposals for legislation or regulations that would be intended to facilitate compliance by the United States with the Kyoto Protocol if the Protocol ever were to become binding on this nation? If so, please tell me which of the entities mentioned above made such a request and when the request was made.

Answer. No, EPA has not been asked to develop any such proposals.

REGIONAL HAZE: VISIBILITY MONITORING NETWORK

Question. How adequate is the existing monitoring network for measuring visibility in all class I areas?

Answer. There are currently 58 class I areas that have monitoring to measure PM–2.5 concentrations for visual air quality and other related data. Of the 156 class I areas, 98 do not currently have any monitoring. When the planned expansion is complete, EPA expects coverage to be generally representative of all mandatory class I Federal areas. It is expected that in several locations, one monitoring site can represent regional conditions in more than one class I area due to the close proximity of some of the class I areas. EPA is working with the States and Federal land managers to better define these "representative site" relationships.

Question. How much is EPA requesting for visibility monitoring in fiscal year 1999?

Answer. EPA has identified the need for $3.14 million as part of section 103 State grant dollars. This is in addition to $1.25 million from section 105 State grants. The total is $4.39 million.

Question. How much total Federal funding will be required to ensure that the States are not left to pick up the tab for visibility monitoring?

Answer. Seventy-eight new visibility sites in or near Federal class I areas are planned for deployment in 1998 and 1999. The estimated costs are $2.47 million for 1998 ($1.22 million to be funded with State section 103 dollars), and $4.39 million for 1999 (103 and 105 dollars).

Starting in the year 2000, approximately $3.6 million per year will be needed for the expanded network of 108 visibility sites. The States would not be expected to provide any funding for visibility monitoring in fiscal year 1999.

Question. Isn't there some way that EPA can coordinate these regulations and their time lines so as to integrate the monitoring programs?

Answer. Section 169B of the Clean Air Act calls for State to submit an Implementation Plan (SIP) on year from the promulgation of the regional haze regulation. Recent legislation has changed that one-year SIP submittal requirement to a varying schedule which is tied to designations of areas as attainment or unclassifiable for PM–2.5 or to plan revisions needed to address nonattainment areas. In the proposal EPA had established a schedule of commitments under the one-year SIP requirement which envisioned States developing control strategies in coordination with plan requirements for PM–2.5. The recent legislation is intended to authorize EPA to directly coordinate these SIP requirements. As with the original proposal, EPA's intent continues to be one of coordinating regional haze rule SIP control strategies dates with those for PM–2.5 implementation.

REGIONAL HAZE: VISIBILITY RESEARCH

Question. In 1990, Congress required EPA to undertake research before it conducted a rulemaking to impose regional haze requirements on the country. Congress authorized $40 million for EPA's visibility research, but EPA's budget for visibility research was negligible. The Clean Air Act required the Administrator to report on its research findings and assessment results. After a court ordered EPA to produce its report, didn't EPA prepare a paper on visibility research?

Answer. Yes, the Environmental Protection Agency issued the "Interim Findings on the Status of Visibility Research" report (EPA/600/R–95/021) in February 1995.

Question. How much money has EPA spent on visibility research since 1990, and what has EPA learned from that research?

Answer. The Environmental Protection Agency (EPA) has spent approximately $18.5 million on collection of visibility data, analysis of that data, and other related visibility research. This amount does not include the significant resources spent development new regional modeling platforms capability of integrating ozone, fine particulate matter and visibility strategy assessment. The major of the approximately $18.5 million directly spent on visibility has been for monitoring in mandatory Class I Federal areas, and in some eastern areas to provide a network of visibility data. Other monies were expended to assist the Grand Canyon Visibility Transport Commission directly analyze visibility protection strategies. In addition, the EPA has spent approximately $6.1 million on development of regional particulate models.

The basic results of what EPA has learned is presented in the table below:

Clean Air Act Factor	Eastern United States	Western United States
Expansion of current visibility related monitoring in class I areas	Expansion of monitoring to more eastern Class I areas confirms that visibility impairment is must higher in the east than in the west.	Additional analysis of monitoring data in the west indicates that man-made impairment is present at all monitored locations.
Assessment of current sources of visibility impairment pollution and clean air corridors	The major source of regional visibility impairment in the eastern United States is sulfates resulting from fossil fuel combustion. No clean air corridors have been identified for the eastern U.S.	The causes of man-made visibility impairment include sulfates, nitrates organic material, and crustal material. The work of the Grand Canyon Visibility Transport Commission indicates that there is a clean air corridor or transport path for the 16 parks and wilderness areas studied
Adaptation of regional air quality models for the assessment of visibility	Regional models, such as RADM have been modified to assess impacts of Acid Rain controls on visibility. MODELS3 platform was developed with the ability to calculate visibility changes.	The Grand Canyon Visibility Transport Commission has developed a model to analyze effects of control strategies on visibility on the Colorado Plateau. MODELS3 platform was developed with the ability to calculate visibility changes.
tudies of atmospheric chemistry and physics of visibility	Research data in the East has resulted in a better understanding of the acidic state of sulfate particles and the resulting effects on light extinction.	Research data, associated with Project MOHAVE, has documented better data on available hydrogen peroxide, cloud transformation chemistry and other reactions that assist in air quality model construction

REGIONAL HAZE: VISIBILITY MONITORING TOOLS

Question. Has EPA published the visibility monitoring, modeling, and assessment tools as required by section 169A(a)(3) for the regional haze rule?

Answer. Section 169A(3) called for the Environmental Protection Agency (EPA) to complete within 18 months of enactment of section 169A a study and report to Congress describing available methods for visibility monitoring, modeling, and assessment of strategies to make progress toward the national goal of remedying existing and preventing future visibility impairment. Section 169A was enacted as part of the 1977 Amendments. This report was issued by EPA in October 1979 and is entitled "Protecting Visibility: An EPA Report to Congress" (EPA–450/5–79–008).

The availability of technical methods for visibility monitoring, modeling, and strategy assessment is also discussed in the National Academy of Sciences 1993 report entitled "Protecting Visibility in National Parks and Wilderness Areas." One of the important findings in this report is that: "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility." Another important conclusion is the following:

> Visibility impairment can be attributed to emission sources on a regional scale through the use of several kinds of models. In general, the best approach for evaluating emission sources is a nested progression from simpler and more direct models to more complex and detailed methods. The simpler models are available today and could be used as the basis for designing regional visibility programs; the more complex models could be used to refine those programs over time.

VISIBILITY RULE: TECHNOLOGY REQUIREMENTS

Question. The proposed visibility rule contains "presumptive" targets and technology requirements that the States have the burden of overcoming. Doesn't this rule Federalize a program that Congress asked the States to implement?

Answer. The proposed rule would not dictate to States either a Federal standard or a set of control requirements for any particular set of sources. Rather, it proposed a presumptive target which States were called on to evaluate in light of their particular visibility circumstances, to establish alternative targets if appropriate, and to decide on the appropriate mix of measures which would be needed to meet those targets. As such, the program sought to preserve State autonomy while addressing the specific mandates established by sections 169A and 169B. The Environmental Protection Agency received comments during the public comment period concerning the appropriate degree of flexibility that should be accorded under the rule and is currently considering and preparing its responses to those comments.

REGIONAL HAZE: UNFUNDED MANDATE ON STATES

Question. Now that EPA has asked the States to rebut the Federal presumptions, without providing the tools to generate the data needed to rebut those presumptions, States will have to incur a significant expense if they want to adopt alternative approaches that better suit their needs. Don't the presumptions in the regional haze rule amount to a new and unnecessary unfunded mandate on States?

Answer. The Environmental Protection Agency (EPA) does not believe the presumptions in the proposed rule amount to an unfunded mandate for a number of reasons. First, EPA will continue to provide Federal funds to States under authority of the Clean Air Act to be used for implementation of air quality programs, including the regional haze program. In addition, EPA expects that funding for the PM and regional haze programs can be efficiently used since certain planning activities for implementation of the PM–2.5 and regional haze programs can be integrated, as recommended by the Clean Air Act Advisory Committee and its Subcommittee on Ozone, PM, and Regional Haze. Second, EPA is funding the development of important technical information, tools, and guidance, such as monitoring network expansions and the ability to model particulate matter and regional haze, needed by States to analyze alternate targets. Third, the proposed rule would provide flexibility to the States in adopting presumptive versus alternate targets, and it allows the states to take into account several criteria, including costs, in setting any alternate target. EPA intends to provide further guidance to the States in conducting such analyses.

VISIBILITY: REVISION OF 1993 ASSESSMENT

Question. In 1992 the EPA was supposed to project the visibility improvements in Class I areas that would result from the implementation of the 1990 amendments. Every five years thereafter, the Act required EPA to assess the actual

progress made on the visual air quality of the Class I areas. Has EPA revised its 1993 assessment of visibility improvement resulting from other sections of the Clean Air Act?

Answer. The Environmental Protection Agency fulfilled its initial obligations under section 169B(b) in October 1993 by publishing a report entitled "Effects of the 1990 Clean Air Act Amendments on Visibility in class I Areas: An EPA Report to Congress." The subsequent reports required by section 169B do not call for a revision to this broader assessment, but rather a review of actual progress and improvements in visibility.

Question. Did EPA's 1993 assessment take the recent NAAQS revisions into account?

Answer. No; at the time the 1993 report was prepared, the Environmental Protection Agency did not have information about the recent revisions to the NAAQS. However, the effects of implementing the standards were taken into account in the draft regulatory impact analysis prepared for the proposed regional haze rule.

Question. Shouldn't we have the latest data on the progress being made by the rest of the Act before we create a new visibility regulatory program?

Answer. The Environmental Protection Agency (EPA) believes that there is ample scientific evidence at this time to justify fulfilling its commitment made in 1980 to develop a regional haze program. The EPA will be encouraging the development of regional planning organizations that will take an integrated approach to ozone, PM-fine, and regional haze planning. Accordingly, no regional haze planning effort should take place that does not fully consider the impacts of all other Clean Air Act programs before making a "reasonable progress" decision for regional haze.

Question. How long would it take and how much would it cost to update this research?

Answer. The Environmental Protection Agency has not prepared an estimate of the cost or time required to prepare such an update. However, because States would be permitted and encouraged under the proposed rule to coordinate their planning and control strategies with the requirements of other programs, such as the PM2.5 standards and acid rain control programs, EPA does not believe that such an update would serve any useful purpose.

REGIONAL HAZE: TRANSPORT COMMISSION

Question. Should EPA establish Transport Commissions in other regions of the country before those regions have to implement any regional haze rules?

Answer. No. As set forth in section 169B(d) of the CAA, the duties of a visibility transport commission are to assess available information regarding visibility and to issue a report to EPA containing recommendations addressing: (1) the establishment of clean air corridors, (2) the imposition of New Source Review requirements for new and modified major sources in such corridors, and (3) the promulgation of regulations to address long-term strategies for addressing regional haze. If a Commission is established, there is no requirement that the result be a long-term regional haze strategy for the region. The EPA believes that integrated efforts by regional planning bodies are needed to develop the long-range strategies. However, because there is a critical need for States to coordinate efforts to address long-range transport of PM 2.5 and ozone precursors, as well as visibility impairment, EPA does not believe that visibility transport commissions are the best approach to achieving this regional coordination.

Question. Otherwise, aren't we putting the cart before the horse?

Answer. No; as explained above, the required statutory duties of a visibility transport commission under section 169B(d) are limited and do not include a requirement to develop a long-term strategy to address regional haze. EPA does not believe regional transport commissions are either a necessary or appropriate means to address the need for integrated regional planning to meet visibility, PM 2.5 and ozone planning and implementation goals. Nonetheless, EPA continues to encourage and support the concept of multi-state planning organizations to carry out needed strategy planning and assessments.

REGIONAL HAZE: INADEQUATE RECORD

Question. Without the statutorily mandated research, models, and studies, and without the reports from other visibility transport commissions, doesn't EPA have an inadequate record on which to build its proposed regional haze rules? If you disagree with that assessment, please provide a detailed explanation.

Answer. The Environmental Protection Agency (EPA) believes it has an adequate record on which to base the proposed regional haze rule. The EPA has issued the reports required in section 169B on interim research findings and the estimated ef-

fects of the 1990 Amendments on Class I areas. The EPA also established the Grand Canyon Visibility Transport Commission and considered their recommendations in the development of the proposed rule. The EPA has worked cooperatively with the States and Federal land managers since 1988 to conduct monitoring in class I areas to characterize current visibility conditions, trends, and the principal PM–2.5 components leading to haze formation in all regions of the country. Scientific studies and modeling have shown that fine particulate matter, the principal cause of visibility impairment, can be transported for several days over hundreds of kilometers. In addition, the National Academy of Sciences 1993 report entitled "Protecting Visibility in National Parks and Wilderness Areas" concluded that "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility." Thus, EPA believes there is sufficient evidence supporting the Agency's decision to move forward with the regional haze program at this time.

BART: UNFUNDED MANDATE ON STATES

Question. If States have to undertake their own research in order to apply for alternative targets or alternatives to BART (Best Available Retrofit Technology) controls, doesn't this rule and the lack of available data impose a huge unfunded mandate on States? If you disagree, please provide a detailed explanation.

Answer. The Environmental Protection Agency (EPA) does not believe the proposed rule imposes an unfunded mandate for a number of reasons. First, EPA will continue to provide Federal funds to States under authority of the Clean Air Act to be used for implementation of air quality programs, including the regional haze program. In addition, EPA expects that funding for the PM and regional haze programs can be efficiently used since certain planning activities for implementation of the PM–2.5 and regional haze programs can be integrated, as recommended by the FACA Subcommittee on Ozone, PM, and Regional Haze. Second, EPA is funding the development of important technical information, tools, and guidance, such as monitoring network expansions and the ability to model particulate matter and regional haze, needed by States to analyze alternate targets. Third, the proposed rule provides flexibility to the States in adopting presumptive versus alternate targets, and it allows the states to take into account several criteria, including costs, in setting any alternate target or alternate levels of BART controls. The EPA intends to provide guidance to the States in conducting such analyses.

ALTERNATIVE TARGETS: COSTS FOR STATES

Question. How much money will states need to complete an adequate record to establish alternative targets or controls?

Answer. The cost of analyses to establish reasonable progress goals will depend on a number of factors, including the outcome of the final rulemaking for regional haze, the degree of impairment of visibility in each area, and the extent to which other programs are expected to provide significant visibility benefits. Thus it is not possible to provide an estimate of such costs at this time.

REGIONAL HAZE: EMISSIONS FROM FEDERAL FACILITIES

Question. Under the proposed Regional Haze rule, would emissions from Federal facilities—such as a utility power plant or a boiler at a military base—be subject to State regulation to the same extent as emissions from private sector facilities?

Answer. As required by section 118 of the Act, if a State air quality regulation affects a given type of source within its jurisdiction, Federal facilities having that type of source must comply with the State regulations to the same extent as any nongovernmental entity. Emissions from Federal facilities such as utility power plants fall within the scope of this requirement.

Question. If not, please provide a detailed explanation why not. If so, does the same hold true for Federal land managers?

Answer. The Environmental Protection Agency believes that Federal Land Managers having emission sources of the type that are covered by State air quality regulations must comply to the same extent as private sector entities.

REGIONAL HAZE: REGULATORS FOR PARK AND FOREST SERVICES

Question. Will the Park Service and the Forest Service be subject to regulation to the same extent as States and the private sector for activities like road construction and proscribed burning?

Answer. If the State develops regulations that impose requirements for road construction and prescribed burning that all sources in a given area of the State must

comply with, the Environmental Protection Agency believes that the Park Service and the Forest Service would be required by section 118 to comply with those regulations to the same extent as nongovernmental entities.

VISIBILITY: NATURAL VS MAN-MADE SOURCES

Question. How does EPA propose to distinguish ''natural'' sources of visibility impairment from ''man-made'' sources?

Answer. Some effort has already distinguished between natural and man-made sources, e.g., the modeling inventories created for the Ozone Transport Assessment Group considered biogenic emissions of ozone precursors. Since the Clean Air Act does not require that the Environmental Protection Agency (EPA) regulations be designed to eliminate all visibility impairment, but only that which is ''man-made,'' the impacts of such emissions on visibility will be used to adjust the extent of improvement in visibility that would be needed to meet reasonable progress goals and, ultimately, to meet the CAA goal of no man-made impairment. The EPA recognizes that there are technical issues concerning some types of sources, e.g., naturally-occurring wildfires and prescribed fires to reduce their frequency and severity, which will require further efforts. The EPA is working with other Federal agencies to develop methods and policies for distinguishing between these types of sources in the calculation of the needed degree of improvement.

VISIBILITY: REGULATION OF PRIVATE SECTOR

Question. In late April 1998, Boise, Idaho was blanketed by smoke from a Forest Service prescribed burn. The proposed rule suggests that EPA will assess the average visibility of the 20 percent most impaired days, regardless of the source of the impairment. How does the proposed rule ensure that States will not have to overregulate private sector sources to make up for an unusually bad fire season?

Answer. It is important to note that the Environmental Protection Agency's (EPA's) proposed rule calls for the establishment of reasonable progress targets which call for improvement over a period of 10–15 years. Thus, while air quality impacts during one or more years during that period may impact the calculations of progress, the determination is to be based on what is achieved over the long-term period, not annually. The EPA believes that this significantly reduces the likelihood that a bad fire season could result in failure to achieve reasonable progress goals. Additionally, the proposed rule calls for States to evaluate the nature of visibility impairment and to develop reasonable progress targets and control strategies which are responsive to the nature and extent of the problem. These targets and strategies must address the natural role of fire for the region. Thus private sector stationary sources will not be asked to compensate for fire emissions from a bad fire season. If impairment is principally caused by a particular type of source or sources, it is reasonable to expect States to focus their attention on actions to reduce the impacts of those sources.

REGIONAL HAZE: MOA FOR IDAHO

Question. If Idaho had a memorandum of agreement with the Federal land managers, what recourse would Idaho have against the Federal Government for fires that impair visibility?

Answer. First, Federal Land Managers have entered into memoranda of understanding with a number of State air quality planning agencies to demonstrate and carry out their commitment to working with States to improve air quality. These agreements are intended to minimize the instances in which States would need to seek such recourse. Whether or not the State of Idaho had a memorandum of agreement with Federal land managers, however, section 118(a) of the Clean Air Act (Act) generally requires Federal agencies to comply with Idaho air quality control laws in the same manner as those laws apply to nongovernmental entities. Moreover, sections 118(a) and 304 of the Act permit suit against a Federal Agency for injunctive relief to remedy violations of air quality control laws.

Question. Can the Federal Government waive any immunity (if any exists) from state enforcement measures on visibility impairment in a memorandum of agreement with the states?

Answer. The Supreme Court has held that any waiver of sovereign immunity by the Federal Government must be unequivocally expressed in statutory text. Therefore, a Federal Land Manager cannot waive any sovereign immunity defenses that are not expressly waived by statute.

REGIONAL HAZE: STATE ROAD PROJECTS

Question. If the regional haze rule becomes final, will States have to submit their road projects to an additional level of bureaucratic review by the Park Service or Forest Service to assess regional haze impacts, and could the Park Service or Forest Service stop highway construction?

Answer. The proposed rule does not impose control requirements for any particular set of emission sources, including highways, but leaves decisions concerning the appropriate degree of control for each category to the States to address in their implementation planning processes. Moreover, while the rule requires coordination and consultation with the appropriate Federal land managers, it does not establish a new concurrence function by which Federal Land Managers would review and approve or disapprove State highway projects. Rather, States are called on by the rule to evaluate all sources whose emissions could reasonably be anticipated to cause or contribute to visibility impairment in the mandatory Federal Class I areas, including projections of emissions growth, and select an appropriate mix of measures to provide for reasonable progress in improving visibility. Thus, while they will need to consider the impact of mobile source emissions on visual air quality, the proposed rule does not impose any specific requirements for mobile source or transportation emissions control, nor does it provide new provisions for Federal Land Manager review of transportation projects.

Question. Will road building projects by the Park Service and Forest Service be subject to similar review by the States?

Answer. In compiling inventories of current and projected emissions, States will need to consult with Federal land managers to ensure that emissions from activities on Federal lands, including new roads, are accounted for. The consultation called for under the proposed rule is expected to include consideration of the need for actions on Federal lands to contribute to visibility improvement.

VISIBILITY TRANSPORT: PROPOSED RULE

Question. Doesn't the proposed rule look a lot more like the Federalized program that Congress rejected than the State-lead program that Congress adopted?

Answer. The proposed rule does not dictate to States either a Federal standard or a set of control requirements for any particular set of sources. Rather, it proposed a presumptive target which States were called on to evaluate in light of their particular visibility circumstances, to establish alternative targets if appropriate, and to decide on the appropriate mix of measures which would be needed to meet those targets. As such, the program sought to preserve State autonomy while addressing the specific mandates established by sections 169A and 169B. The Environmental Protection Agency received comments during the public comment period concerning the appropriate degree of flexibility that should be accorded under the rule and is currently considering and preparing its responses to those comments.

BART: PROVIDE TOOLS FOR STATES

Question. Isn't it true that in order for States to use alternative approaches to the presumptive visibility target and BART (Best Available Retrofit Technology) they bear the burden of proof, yet EPA has not fulfilled its statutory job to provide the analytical tools necessary for States to do so? A clarifying example is that EPA failed to produce the 5 year update to the study on the visibility improvements from other CAA provisions as required by section 169(B)(b). Please provide a detailed explanation if you disagree with my assessment.

Answer. In establishing their reasonable progress targets and any specific controls for sources affected by the Clean Air Act (CAA) requirements for BART, States will need to provide justifications for their decisions which address the analytical factors set out in CAA sections 169A(g) (1) and (2). The availability of technical methods for visibility monitoring, modeling, and strategy assessment is discussed in the National Academy of Sciences 1993 report entitled "Protecting Visibility in National Parks and Wilderness Areas." One of the important findings in this report is that: "Current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility." Another important conclusion is the following:

> Visibility impairment can be attributed to emission sources on a regional scale through the use of several kinds of models. In general, the best approach for evaluating emission sources is a nested progression from simpler and more direct models to more complex and detailed methods. The simpler models are available today and could be used as the basis for designing regional visibility

programs; the more complex models could be used to refine those programs over time.

The EPA intends to provide the necessary additional technical tools and further guidance to assist States in fulfilling their obligations under the rule. As proposed, the rule would not require States to establish reasonable progress targets or specific BART requirements in the plans which the CAA requires to be submitted 12 months after the rule is promulgated. Rather, those elements would be due to EPA in future SIP revisions. The EPA intends to work directly with the States as it develops needed additional guidance. As EPA has noted previously, section 169B(b) requires EPA to assess and report on actual progress and improvement in visibility, and does not require EPA to conduct further studies of visibility improvements from other Clean Air Act provisions.

WASTE ISOLATION PILOT PLANT (WIPP)

Question. I have had the opportunity to speak before with EPA about the importance of opening the Waste Isolation Pilot Plant (WIPP) in New Mexico, for the disposal of this nation's transuranic waste. I was pleased when the EPA released its proposed certification for WIPP last October—a determination that WIPP will meet environmental standards and that WIPP will operate safely as a disposal site.

I am concerned, however, that in its rulemaking, EPA proposed a new role for itself—requiring that EPA perform individual certifications of each waste generator site, such as the Idaho National Engineering and Environmental Laboratory. You also propose to have a public comment period on each site certification, which will last at least 30 days.

I, along with Senator Dirk Kempthorne and Congressman Mike Crapo, have corresponded with you on this issue, but I would like to hear from the Administrator now, on why EPA believes an additional hurdle is appropriate and what statute grants EPA the authority to regulate DOE waste site in this manner.

Please provide a complete and detailed explanation that supports EPA's position on this matter.

Answer. The WIPP Land Withdrawal Act (LWA) requires EPA to, *inter alia*, develop, through informal rulemaking pursuant to Section 4 of the Administrative Procedures Act (APA), criteria by which to certify whether the WIPP will comply with EPA's radioactive waste disposal regulations at 40 CFR Part 191 [Section 8(c)], and utilize such criteria to certify, through APA Section 4 informal rulemaking, whether the WIPP will comply with such regulations. [Section 8(d)(2)]. Thus, EPA has a legal obligation to utilize the compliance criteria in its determination of whether the WIPP will comply with the 40 CFR Part 191 disposal regulations. The quality assurance (QA) and waste characterization conditions imposed upon EPA's certification that the WIPP will comply with the Part 191 regulations reflect the fact that DOE did not fully demonstrate compliance with Sections 194.22(a)(2)(I), 194.24(c)(3), 194.24(c)(4), and 194.24(c)(5) of the compliance criteria.

EPA is legally required to determine whether DOE has met the requirements of the compliance criteria. Under 40 CFR 194.22(a)(2)(I), DOE is required to demonstrate that a quality assurance program in accordance with Nuclear Quality Assurance (NQA) standards, has been "established and executed" for waste characterization activities and assumptions. Also, under Section 194.24(c)(3–5), DOE is required to provide information that demonstrate the following: (1) that use of process knowledge to quantify waste components meets the requirements of Section 194.22(a)(2)(I); (2) that a system of controls has been and will continue to be implemented to confirm that the total amounts of waste components to be emplaced at WIPP will not exceed the established limits under Section 194.24(c); and (3) that such system of controls meets the quality assurance requirements of Section 194.22(a)(2)(I). As set forth in the certification, EPA has determined that the only site at which DOE has met these specific quality assurance and waste characterization requirements is for the process used to characterize legacy debris waste at Los Alamos National Laboratory.

Thus, EPA finds that it is both necessary and within the Agency's authority to evaluate and approve site-specific QA and waste characterization programs. The compliance criteria expressly provide that any certification of compliance "may include such conditions as [EPA] finds necessary to support such certification." [Section 194.4(a)]. Before waste is shipped for disposal at the WIPP, EPA must be confident that the waste will conform to the waste limits and other waste-related assumptions incorporated in the performance assessment—that is, that the information and assumptions on which a certification of compliance is based will be adhered to in practice. Such confidence can be assured only by confirmation that the required QA and waste characterization programs are in place (i.e., established and

implemented/executed) at waste generator sites. EPA believes that an approval process separate from DOE's internal procedures is critical because DOE's process is not geared solely at confirming that programs adhere to EPA's compliance criteria, and because DOE's process does not provide for public participation.

EPA believes that its site approval process is not redundant and has different regulatory objectives from DOE's certification process. EPA's main objective is to assess compliance with the applicable certification criteria. Waste generator sites produce relevant information on waste components that is critical to the performance of the WIPP disposal facility. The predictions made by the performance assessments, which are the basis for compliance with the radioactive disposal standards, set up limits on waste components that are fixed throughout the duration of this certification. Waste characterization activities will generate critical information on the amount of waste components comprising the various waste streams to be emplaced at WIPP. Evaluation of waste characterization and quality assurance activities, waste analysis procedures, waste characterization instrumentation and techniques, etc., are of paramount importance in determining whether DOE has the ability to adhere to the identified waste component limits. Consequently, prior to approving shipment of transuranic wastes from a waste generator site for emplacement at WIPP, EPA will assess whether DOE has demonstrated compliance with the requirements of Sections 194.22(a)(2)(I) and 194.24(c) (3)–(5). DOE's certification process, on the other hand, is part of DOE's internal activities, offers no access to the public in regard to information gathered during such activities, and includes a number of evaluations which are not relevant to EPA regulatory objectives (e.g., transportation requirements, etc). The focus of DOE's certification process do not meet EPA's regulatory objectives, nor do they provide the external oversight of DOE that is the purpose of the LWA.

EPA believes that it has developed a process for approving QA and waste characterization processes at waste generator sites which will fulfill the Agency's requirement to determine DOE's compliance with Section 194.22(a)(2)(I) and 194(c) (3)–(5) while providing the public an opportunity to comment on these activities. For most generator sites, this process involves a thirty day public comment period and an inspection of a DOE audit. EPA is committed to completing these activities in an expeditious manner.

FQPA: GUARANTEE SOUND SCIENCE

Question. In your April 10th memorandum to the Vice President, you pledge to apply sound science to all FQPA related decisions. What steps have you taken, or plan to take, to guarantee this to be the case?

Answer. EPA is confident that its policies and procedures since the Food Quality Protection Act (FQPA), have been based in sound science. To ensure that these policies and procedures are independently reviewed, the Agency has called on the expertise of the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (SAP), the International Life Sciences Institute (ILSI), the Endocrine Disruptors Screening and Testing Advisory Committee, the Food Safety Advisory Committee, and the recently formed Tolerance Reassessment Advisory Committee. Since FQPA was signed into law, EPA has made FQPA-related presentations at six SAP meetings, on topics such as the FQPA safety factor, common mechanism of toxicity and cumulative effects, and drinking water exposure methods. ILSI has also assisted the Agency on common mechanism and drinking water exposure. EPA's Administrator also formed an internal review group to look at the scientific soundness of some aspects of FQPA implementation. Attached is a chart outlining some of our activities in this area.

Staff Paper # 1TRAC 5/28-29/98

AT A GLANCE -- Evolution of FQPA Implementation

Interim Decision Logic (described to FSAC[1] in Dec.'96 and published in PR Notice 97-1)	Consultation Opportunities[2]	Current operating policy
Aggregate Exposure. Estimate exposure components (dietary, drinking water, residential) and risk, allocate portions of total aggregate risk to drinking water, residential, remainder to dietary exposure	SAP[3] December 10-11 1997 SAP March 24-25, 1998 SAP May 5-6, 1998 ILSI[4] November 1997 ILSI February 1998	Current approach still adds exposure from the three components. Tools/methods for estimating exposure are evolving and improving.
Risk Cup. 5% - 20% of risk cup reserved non-dietary exposure pathways (e.g., 10% for drinking water)	SAP December 10-11, 1997 ILSI November 1997 ILSI February 1998	No longer reserving a percentage of the risk cup. For drinking water and residential (indoor and outdoor), using available data, and scientific methods and models.
Common Mechanism of Toxicity. Assume common mechanism exists if a pesticide shares a toxicological endpoint and structural similarity with other substances. Any approvals will be time-limited or conditional.	SAP December 10-11, 1997 SAP March 24-25, 1998 ILSI September 1998	Still largely applying interim logic, since in most cases there is still no "available information" concerning common mechanism that can be applied rationally to science decisions. OPs have been determined to share a common mechanism of toxicity. Need to develop a cumulative risk assessment methodology for considering all aggregate OP risks.
Regulatory Decisions. Apply interim decision logic when data lacking to estimate specific exposures. If data available, it would be used to estimate exposure more precisely. Decision logic will be revised and updated once interim decisions revisited.	SAP December 10-11, 1997 FSAC[1] December 1996	Interim decision logic has evolved. Better exposure data and estimating techniques being incorporated into decisions.

FQPA Safety Factor (10X). Retention, reduction or removal of the safety factor based primarily on completeness of the database as well as type and severity of the observed effect(s).	SAP September 9-10, 1997 SAP March 24-25, 1998 SAP July 1998 SAB[5] Fall 1998 PPDC[6] April 16-17, 1998	Safety factor decisions are made considering all aspects of the pesticide's risk characterization, i.e., in addition to data, use and exposure are considered.
Probabilistic risk assessments/Monte Carlo/99.9%.	SAP September 9-10, 1997 SAP March 24-25, 1998	Agency is accepting Monte Carlos submitted by registrants according to draft guidance. Evaluating which percentile(s) (e.g., 99.9%) is the most appropriate for decision-making.

1. Food Safety Advisory Committee (FSAC).
2. Attached is a list of materials and guidance documents that EPA presented to the SAP, ILSI, and PPDC.
3. Scientific Advisory Panel (SAP).
4. International Life Sciences Institute (ILSI).
5. Scientific Advisory Board (SAB).
6. Pesticide Program Dialogue Committee (PPDC).

Question. What type of scientific review will be performed to judge the "soundness" of EPA's science?

Answer. Many of EPA's science decisions go through the SAP and specific policies are often shared with independent groups such as the International Life Sciences Institute. In the specific case of designing screening and testing procedures for endocrine disruptors, the Agency has used the Endocrine Disruptors Screening and Testing Advisory Committee (formed of independent scientists from various disciplines) and has also consulted both the SAP and the Administrator's Science Advisory Board and will publicly propose the final procedures.

FQPA: ADVISORY GROUPS CRITERIA

Question. I am interested in EPA's plan to establish an advisory group on FQPA issues and was pleased to learn that a number of commodity organizations will be represented on it. However, EPA plans call for the group to number somewhere between 45 and 50 people. When will you be prepared to announce the members of the advisory group, and what criteria are you using to determine membership?

Answer. Attached is a list of the membership of the newly formed Tolerance Reassessment Advisory Committee. Members were selected under requirements of the Federal Advisory Committee Act and approved by Fred Hansen, Deputy Administrator of EPA and Richard Rominger, Deputy Secretary of USDA. Members were chosen based on their relevant experience and diversity of perspectives. Membership was balanced between: environmental and public interest groups; pesticide industry and trade associations; user, grower and commodity organizations; pediatric and public health organizations; Federal agencies, tribal, state, and local governments; academia; and consumer groups.

Question. How will such a large group ever come to any concrete conclusion?

Answer. The Advisory Committee provides a forum for discussing many of the issues involved in FQPA implementation. Given the variety of viewpoints represented, it may not be possible to reach consensus on all of the issues. The discus-

sion itself, however, will assist the Agency in its deliberations and will allow for greater consultation with the regulated community and interested parties.

Question. How will issues be decided if not everyone agrees with a decision?

Answer. The Advisory Committee process is an important part of EPA's effort to consult stakeholders. The results of the meetings will be considered in connection with the other information available to the Agency when developing policies and procedures. EPA is the final arbiter of what policies it adopts.

Question. What stock will be given to the advisory group's recommendations by EPA, and how will EPA be accountable to follow them?

Answer. Again, recommendations will be considered in connection with other information available to the Agency. Any recommendations the committee may have will be seriously considered and will play an important role in shaping EPA's approach to reassessing tolerances.

Question. Will the advisory group's recommendations be published, will there be a final report?

Answer. There will be a final report following the last Advisory Committee meeting. In addition, after each Committee meeting, a summary of the discussion will be prepared. The report and summary documents will be posted on EPA's Web Page and placed in a publicly available pesticide docket. Broader distribution will be considered and may be discussed by the Committee.

Question. What issues do you expect the advisory group to take up, what of the issues not addressed during the groups 4 meetings?

Answer. The Advisory Committee will focus on the pending tolerance reassessment of organophosphates but its input will be used to shape the broader tolerance reassessment process. Some of the specific issues that will be addressed by the Committee include: advice on developing an appropriate process for making tolerance reassessment decisions under FQPA; recommending the proper policy framework for deciding when there is adequate scientific information, when new information is needed, and when it is scientifically appropriate to use estimates in the absence of actual measurements; recommend ways to increase the pace of decision-making to make available to growers newer and safer pesticides and new uses of registered pesticides that meet the FQPA standard; developing strategies for reducing risk to acceptable levels while retaining those pesticides of the highest public value, and identifying opportunities for reasonable transition mechanisms; assuring that appropriate priority is given to assessing pesticides that are most likely to lead to exposure in children's foods; fostering improved communication and understanding among stakeholders; and assuring appropriate public participation in Agency decision making.

This group will largely be providing advice on broad policy issues; it is not a technical, scientific advisory group. As a result, we do not anticipate that it will consider, or make recommendations on, scientific and technical issues. EPA will continue to use independent scientific panels such as the Scientific Advisory Panel (SAP)/Scientific Advisory Board (SAB) to solicit this type of detailed technical review.

CONSULTATION OPPORTUNITIES ATTACHMENT TO "AT A GLANCE" TABLE

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT

SCIENTIFIC ADVISORY PANEL (FIFRA SAP)

BACKGROUND DOCUMENTS CONCERNING FQPA

October 29–30, 1996 FIFRA SAP meeting

Metabolism Guidelines
Requirements of the Food Quality Protection Act: Additional
Uncertainty Factor for Developmental/Reproductive Endpoints
Developmental and Reproductive Guidelines
In Utero Exposure for Carcinogenicity Studies

March 19–20, 1997 FIFRA SAP meeting

Aggregate Exposure Methodology Issues
Common Mechanism of Action
Visual System Toxicity Testing of Organophosphates

June 3–4, 1997 FIFRA SAP meeting

Anticipated Residues Methodology
Import Tolerance Guidelines

Antimicrobial Issues
Cholinesterase Policy Issues

September 9–10, 1997 FIFRA SAP meeting

Criteria for Requiring In-Utero Cancer Studies
Efficacy Testing Issues Concerning Public Health Antimicrobial Pesticides
The Office of Pesticide Programs' Update on the FQPA Activities to Date

December 10–11, 1997 FIFRA SAP meeting

Estimating Drinking Water Exposure As A Component of the Dietary Risk Assessment

March 24–25, 1998 FIFRA SAP meeting

Common Mechanism of Action of Organophosphates
Policy for Review of Monte Carlo Analyses for Dietary and Residential Exposure Scenarios
Suggested Probabilistic Risk Assessment Methodology for Evaluating Pesticides That Exhibit a Common Mechanism of Action
Use of 10x Safety Factor to Address Special Sensitivity of Infants and Children to Pesticides
Post Application Exposure Guidelines

INTERNATIONAL LIFE SCIENCES INSTITUTE

BACKGROUND DOCUMENTS CONCERNING DRINKING WATER

RISK ASSESSMENT METHODS UNDER FQPA

October 1, 1997 ILSI Workshop

The Screening Concentration in Ground Water (SCI–GROW)
Surface-Water-Source Drinking Water Exposure Assessment in the Office of Pesticide Programs: Current Modeling Methods and Needs SCI–GROW: A Proposed Method to Determine Screening Concentration Estimates for Drinking Water Derived from Ground Water Sources Development of GENEEC for Screening Level Estimation of Pesticide Exposure in the Aquatic Environment

PESTICIDE PROGRAM DIALOGUE COMMITTEE (PPDC)

BACKGROUND DOCUMENTS CONCERNING FQPA

November 12–13, 1996 PPDC meeting

The Food Quality Protection Act of 1996 Fact Sheet
Major Issues in the Food Quality Protection Act of 1996 Fact Sheet

March 18–19, 1997 PPDC meeting

1996 Food Quality Protection Act Implementation Plan
FQPA Fact Sheet on Implementation Activities
Process for Developing FQPA Consumer Right-to-Know Brochure Briefing Paper

June 24–25, 1997 PPDC meeting

FQPA New Health Standards Draft Issue Paper
Summary of Activities Related to Aggregate/Cumulative Exposure Assessment in the Office of Pesticide Programs
Proposed Reduced-Risk Initiative Guidelines
Draft Guidelines for Expedited Review of Conventional Pesticides under the Reduced-Risk Initiative and for Biological Pesticides
EPA's Minor Use Program Issue Paper
Tolerance Reassessment under the Food Quality Protection Act

October 22–23, 1997 PPDC meeting

The Food Quality Protection Act of 1996—Status of Implementation at the end of Fiscal Year 1997 (10/1/97)
Consumer Right-to-Know Efforts under FQPA White Paper
Standard Operating Procedures (SOP's) for Residential Exposure Assessments

April 16–17, 1998 PPDC meeting

Registration Activities in the Office of Pesticide Programs
Implementation of Registration Review
Memorandum to Secretary Glickman and Administrator Browner from Vice President Gore (4/8/98)

Memorandum to Vice President Gore from Secretary Glickman and Administrator Browner (4/10/98)

LETTER FROM THE DEPARTMENT OF AGRICULTURE AND THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC, *April 30, 1998.*

Mr. JOHN ADAMS,
Executive Director, Natural Resources Defense Council,
New York, NY.

DEAR MR. ADAMS: It is our pleasure to invite you to serve as a member of the EPA–USDA Tolerance Reassessment Advisory Committee (TRAC) for a term beginning immediately and ending September 1998. Vice President Gore recently requested the Administrator of EPA and the Secretary of Agriculture to work together to ensure smooth implementation of the Food Quality Protection Act (FQPA). Passed in 1996, this new law strengthens the nation's system for regulating pesticides on food. The EPA and the USDA are very committed to both the public health requirements of FQPA and to preserving the strength of our Nation's agriculture and its farm communities.

We value your knowledge and perspective on FQPA implementation issues, as a member of this new Committee, you will make it possible for us to take advantage of your experience and expertise to help establish overall priorities and a strategic direction for making tolerance decisions. We will be asking the Committee to provide policy guidance on sound science; ways to increase transparency in our decision making; strategies for a reasonable transition for agriculture, and ways to enhance consultations with our stakeholders, as we reassess pesticide tolerances including those for organophosphates. We will Co-Chair this Committee and plan to hold four public meetings over the next three months.

The TRAC is being established as a subcommittee under the auspices of the FQPA National Advisory Council for Environmental Policy and Technology (NACEPT). Enclosed is a copy of the NACEPT Charter and the Federal Advisory Committee Act, which regulates and governs the operation of advisory committees, including public participation and access to committee documents. Since Committee members are invited to serve as representatives of non-Federal interests (i.e., are not appointed as special Government employees and do not receive a stipend for their participation), you are not subject to the conflict of interest restrictions. However, you should take note of the enclosed memorandum of March 24, 1998, entitled "Legal Requirements for Representative Members of EPA Advisory Committees." As a representative of TRAC, you are entitled to receive travel and per diem allowances, if needed.

We hope that you will find it possible to accept this invitation and give EPA and USDA the benefit of your expertise. If so, please sign the enclosed invitation response form to indicate your decision and either fax or use the pre-addressed envelope to send your response to Margie Fehrenbach, Designated Federal Officer for TRAC. If you have general questions about the meeting or concerns about possible conflicts of interest, she can be reached by phone at (703) 309–4775 or 305–7090; by fax at (703) 308–4776, or by Internet at the following address: Ferhrenbach.margie@epamail.epa.gov

Our first public meeting is scheduled for May 29–29, 1998, at the Washington National Airport Hilton located in Crystal City at 2399 Jefferson Davis Highway, Arlington, Virginia. We will also meet on June 22–23, July 13–14, and July 27–28, 1998.

We have enclosed a copy of our Mission Statement, a list of the invited Committee members, and some additional background materials. If you accept, we will be calling you soon to discuss the scope and objectives of the Committee. If you have questions in the interim, please contact Stephen Johnson, Deputy Director, Office of Pesticide Programs, EPA, at (703) 305–7090 or Keith Pitts, special assistant to the Deputy Secretary, USDA, at (202) 690–2525.

Upon learning of your acceptance we will provide you with more information relating to Committee activities.

Sincerely,

RICHARD E. ROMINGER,
Deputy Secretary, Department of Agriculture.

FRED HANSEN,
Deputy Administrator, Environmental Protection Agency.

EPA NOTE TO CORRESPONDENTS

FOR RELEASE: THURSDAY, APRIL 30, 1998

EPA BROADENS PUBLIC INVOLVEMENT IN IMPLEMENTATION OF FOOD, QUALITY PROTECTION ACT

The U.S. Environmental Protection Agency in conjunction with the U.S. Department of Agriculture is establishing a new advisory group to ensure the broadest possible public involvement as it moves forward to implement the Food Quality Protection Act. This new committee responds to Vice President Gore's request that implementation of the new law is informed by appropriate input from affected members of the public.

EPA Administrator Carol M. Browner said,

> The new committee to advise EPA on pesticide-safety issues is part of the Clinton Administration's common-sense approach to protect public health while ensuring the abundance of America's food supply. One of the most important parts of that approach is consulting openly and often with a broad variety of groups representing the views of the American public. We look forward to hearing from this committee on issues ranging from protecting children's health to using the best scientific data in our decision making,

USDA Deputy Secretary Richard Rominger said,

> USDA looks forward to working closely with EPA and this advisory group to develop a scientifically sound and balanced implementation strategy for FQPA. Using this process to craft an effective transition strategy for at-risk commodities is critically important to USDA and American Agriculture,

The new committee will be co-chaired by EPA Deputy Administrator Fred Hansen and USDA's Richard Rominger. Its members will be made up of experts that include farmers, environmentalists, public health officials, pediatric experts, Pesticide companies, food processors and distributors, public interest groups, academicians, and state, local and tribal governments.

The new committee will advise EPA and USDA on a host of issues pertaining to the implementation of the Food Quality Protection Act. Examples of those issues include helping EPA use the best science in making decisions about pesticide safety; helping EPA set priorities in considering broad categories of pesticides, such as organophosphates; helping EPA speed the pace of decisions on pesticide safety to make sure that farmers can have products they need in a timely way, advising USDA on prioritizing research programs to address FQPA-driven needs, and making sure Pesticide safety rule are protective of children. A list of nominees is attached.

JOHN KASPER,
Director, Press Services Division.

[May 13, 1998]

EPA–USDA TOLERANCE REASSESSMENT ADVISORY COMMITTEE (TRAC)

SUBCOMMITTEE TO NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY & TECHNOLOGY

Fred Hansen, Deputy Administrator, EPA, Co-Chair
Richard Rominger, Deputy Secretary, USDA,Co-Chair

Designated Federal Officer

Margie Fehrenbach, Office of Pesticide Programs, EPA

Environmental/consumer Organizations/Farmworker Representatives

Carolyn Brickey, National Campaign for Pesticide Policy Reform
Nelson Carrasquillo, Executive Director, C.A.T.A. (Farmworker Support Committee)
Ken Cook, Environmental Working Group
Shelley Davis, Farmworker Justice Fund
Jeannine Kenney, Consumers Union
Sarah Lynch, World Wildlife Fund
Maion Moses, Pesticide Education Center
Erik Olson/David Wallinga, Natural Resources Defense Council

Agriculture/Farmer Representatives

Dan Botts, Florida Fruit and Vegetable Association

Jim Czub, National Corn Growers Association
Larry Elworth, Program for Strategic Pest Management
Hugh Ewart, Northwest Horticultural Council
William T. Lovetady, Chairman, National Cotton Council
Brad Luckey, Luckey Farms, Imperial County, California
Charles Mellinger, National Association of Independent Crop Consultants
Steven Pavich, Organic Grape Producer, Terra Bella, CA
Bill Spencer, Farmer, American Farm Bureau Federation
Robin Spitko, Plant Pathologist, Massachusetts

Pesticide Companies

Emilio Bontempo, Novartis
Linda Fisher, Monsanto
Jon Jessen, Gowan
Elin Miller, DowElanco
Nancy Rachman, American Cyanamid
Jay Vroom, American Crop Protection Association

Other Federal Agencies

Dick Jackson, Centers for Disease Control and Prevention
Robert Lake, Food and Drug Administration

NACEPT/SAP Representatives

Mark Greenwood, Ropes & Gray
Ernest McConnell, Chair, FIFRA Scientific Advisory Panel (SAP)

Academia

Dr. Jose Arnador, Director, Agriculture Research & Extension Center, Texas A&M
Dr. Mike Linker, North Carolina State University (State Extension Service)
Dr. J. Routt Reigart, Pediatrician, Medical University of South Carolina
Dr. Michael Shannon, Pediatrician, Children's Hospital/Harvard Medical School
Michael Taylor, Visiting Scholar, Resources for the Future
Dr. John Wargo, Yale University
Mark Whalon, Michigan State University

Tribal, State, & Local Representatives

Henry (Andy) Anderson, Association of State & Territorial Health Officials, Wisconsin
Bill Cottkamp, Supervisor of Vector Control, St. Louis County Dept of Health, MO
Alice Devine, Commissioner, Kansas Department of Agriculture
Jean-Mari Peltier, California Department of Pesticide Regulation
Greg Phillips, Omaha Tribal Council
Lora Lee Schroeder, Chair, AAPCO FQPA Minor Use Committee, GA Dept. of Agriculture

Food Processors/Distributors

John Cady, National Food Processors Association
Kay Holcombe, Policy Directions, Inc.
Alfred Pieroallini, Gerber Products Company
William Spain, Del Monte Foods
Margaret Wittenberg, Whole Foods Market, Inc.

Structural Pest Control User

Robert Rosenberg, National Pest Control Association

Observers

EPA Regional Office

EPA Office of Children's Health Protection

Ramona Trovato

USDA

Allen Jennings, Office of Pest Management

Congressional Participants

Howard Cohen, House Commerce Committee
John Ford, House Commerce Committee
Eric Burger, House Commerce Committee
Greg Dotson, Congressman Waxman's Office
Bill O'Connor, House Agriculture Committee

Dannell Farmer, House Agriculture Committee
Terri Nintemann, Senate Agriculture Committee
Phil Schwab, Senate Agriculture Committee
Jean Fruci, House Committee on Science
Paul Charton, Office of Congressman Berry Jay Hawkins, Senate Committee on Labor and Human Resources

FQPA: TEN FOLD SAFETY PRESUMPTION PROGRESS

Question. Your April 10th memorandum to the Vice President also mentioned EPA's plan to review the application, and the possible elimination, of the ten-fold safety presumption. What progress, if any, has been made on the review?

Answer: In February 1998, EPA Administrator Browner asked representatives of the Office of Prevention, Pesticides, and Toxic Substances, the Office of Research and Development, and the Office of Children's Health Protection to determine what data is appropriate to rebut the presumption that the ten-fold factor should be retained and to discuss whether the factor was being appropriately applied and adequately communicated to the regulated community. This group's final report should be available soon. In addition, at the request of the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (SAP), EPA has revised its guidance document on the ten-fold factor. A new version was presented to the SAP in March and we are currently reviewing the SAP's comments on that revised draft.

Question. When do you expect the review to be completed, how will the results be published?

Answer: Once the intra-agency workgroup has reported, and the SAP's comments have been reviewed, the Agency will revise its paper accordingly. When a final version of the paper has been prepared, EPA will investigate appropriate methods of distribution, including publication in the Federal Register or distribution as a Pesticide Registration Notice.

FQPA: MINOR CROP PROTECTION

Question. As you know, my state is dependent on the production of "minor crops." Officials from both EPA and USDA have stated their support for continued emphasis on minor crop pesticide registrations. What specific efforts has EPA taken to assure the protection of minor crop registration?

Answer: EPA's pesticide registration program establishes priorities for applications based upon certain environmental and societal goals. Under this system, registrations for minor use pesticides receive expedited review. In addition, EPA has created a minor use team with an ombudsman within the pesticide program and has broadened communication efforts with growers and trade associations concerned about minor use issues. The Agency also published guidance on the minor use prioritization criteria and held a workshop on minor use registration.

In addition, EPA works with the U.S. Department of Agriculture (USDA) on a regular basis to ensure that the impact of its regulations and decisions on farmers is considered. USDA has committed to enhance research and development of alternative pest control methods and EPA has committed to expediting review of any products that result from this research and development. EPA and USDA also have a Memorandum of Understanding to foster cooperative efforts to provide replacements for pesticides that are likely to be subject to cancellation or suspension by EPA, or are subject to voluntary cancellation based on risk or economic concerns. This program is particularly important for minor use crops which may face a lack of safe and effective pest management alternatives. We have also added staff in each division to specifically facilitate registration of minor crop products.

Question. Does EPA give higher priority to minor crop registrations and will this practice continue?

Answer: Minor use applications, including all petitions from the U.S.D.A. Inter-Regional Research Project #4 (which supports registration applications for minor uses) receive priority review. EPA recognizes the unique situation these uses face and will continue this practice.

DR. GOLDMAN PARTICIPATION IN IDAHO MEETING

Question. I have invited Dr. Goldman and other EPA officials to participate in a public meeting in Idaho to address FQPA implementation and its impact on our state. Is Dr. Goldman prepared to accept this invitation?

Answer: EPA would welcome the opportunity to attend a public meeting on the Food Quality Protection Act (FQPA) implementation and its impacts on Idaho. We will continue to work with your staff to determine the appropriate EPA participants.

CLEAN WATER ACT: STATE PRIMACY KEEPERS

Question. Isn't it true that pursuant to the Clean Water Act, Congress delegated to the States exclusive authority to protect the quality of water within the boundaries of each State, and therefore, the States are the "primary keepers" of clean water in the United States?

Answer: The Clean Water Act assigned specific roles and responsibilities to the Administrator of the Environmental Protection Agency and to State governments. In some cases, EPA is directed to stand ready to act to implement clean water programs where a State is not able to do so. Over the past 25 years, States and EPA have worked cooperatively to carry out clean water programs and other related activities. Many other levels of government and the private sector have contributed to this effort. As a result of this work, the quality of the nation's waters has improved dramatically. EPA and the States need to continue to maintain their close partnership in order to continue good progress in pollution reduction in the years to come.

CLEAN WATER ACT: FEDERAL ROLE

Question. Does EPA believe that the States have not adequately protected the quality of water in the United States and that EPA, or another Federal agency should have authority to ensure that water quality meet a higher Federal standard?

Answer: EPA recognizes that water quality has improved dramatically in the past several decades. This dramatic improvement is the result of hard work by States, Federal agencies, and local governments to cooperatively implement programs authorized under the Clean Water Act. Many States and local laws, as well as other Federal laws, have also contributed to this important progress. States establish water quality standards and monitor the condition of waters. In recent reports, States have indicated that between 30–40 percent of assessed waters do not meet clean water goals. EPA will continue to work with States and others to continue progress toward clean water.

CLEAN WATER ACT: FEDERAL STANDARD FOR WATER QUALITY

Question. Is EPA contemplating the promulgation of any rule that would establish a Federal standard for water quality in the United States?

Answer: The Clean Water Act provides that States establish water quality standards for waters, and that EPA review and approve these standards. EPA and States have a good partnership for the development of standards and EPA acts to promulgate a change to a State standard only in very rare cases. EPA is presently in various stages of promulgating some aspect of a water quality standard in the States of California, Alabama, Kansas, and Kentucky.

CLEAN WATER ACT: EXPANDED FEDERAL JURISDICTION

Question. Is EPA contemplating amending any existing rules that would expand EPA's jurisdiction over water quality that currently is monitored by the State?

Answer: Section 305(b) of the Clean Water Act provides that States have the lead in designing and implementing programs for monitoring of water quality. EPA believes that States do a good job of monitoring water quality and does not see a need to change this arrangement.

QUESTIONS SUBMITTED BY SENATOR MIKULSKI

NAPA: IMPLEMENTATION OF NAPA RECOMMENDATIONS

Question. How does your fiscal year 1999 request address the implementation of NAPA's recent report regarding the earlier 1995 report? Who at EPA is responsible for implementing the NAPA recommendations? What steps will you take next?

Answer. The National Academy of Public Administration conducted an extensive study of the Environmental Protection Agency, including its legislative history, organization, management processes and current operating environment. In its 1995 report, NAPA recommended:

—Giving EPA a statutory mission with a clearer sense of direction than can now be inferred from the agency's fragmented statutes;

—Designing national environmental programs to encourage states, cities, and firms to find innovative and locally appropriate ways to meet national standards;

—Managing EPA to focus on environmental results, rather than on bureaucratic processes and building the environmental database to do so;

—Strengthening EPA's management systems and the agency's ability to integrate its management approaches across environmental media and statutes; and

—Working with Congress to set strategic priorities for environmental risk reduction.

EPA actively responded to these recommendations from the outset. A task force comprised of senior managers conducted a comprehensive review of Agency operations to ascertain the best strategy for achieving what was envisioned by the recommendations. In March 1996, the Administrator announced an ambitious plan to reorganize the Agency in order to strengthen key management functions and provide greater opportunities for scientific information to impact decision making. These new directions were also consistent with the Agency's approach to implementing management reform legislation such as the Government Performance and Results Act.

The Office of the Chief Financial Officer was established to consolidate planning, budgeting, financial management, analysis and accountability under one program official. By integrating these functions, the Agency is positioning itself to manage for results. It will impact how EPA sets priorities, directs funding and ensures results from our investments.

Significant progress already has been made. In September of last year, we delivered to Congress our Strategic Plan, based upon an intensive evaluation, aided by the views of its partners and stakeholders, of what we would like our work to have achieved five years from now. We have also made significant strides in the process of aligning our budget structure with the Strategic Plan elements, thus establishing clear linkages between environmental results and budget decisions. With the assistance of State and Tribal representatives, we have begun to address the internal challenge of developing an accountability process that moves us away from counting "program outputs" and toward the measurement of environmental outcomes. Finally, an Agency-wide evaluation of the availability and quality of data needed to measure progress toward achieving the commitments in the Strategic Plan is underway. This evaluation will help inform the Agency's multi-year planning process, identify opportunities for strategic investment in better data and methods, and provide useful information for improving the Agency's accountability system.

Through coordinated planning and the use of targeted staff offices under the Administrator, such as the Office of Children's Health Protection and the Office of Reinvention, EPA has also made significant headway in supporting cross-media approaches and promoting innovative solutions to environmental protection. This work is still in its initial stages and will require continued support from top management and Congress.

SUPERFUND/BROWNFIELDS: COORDINATION WITH OTHER AGENCIES

Question. What coordination efforts are underway with other agencies to ensure the Brownfields initiative is a success?

Answer: The Brownfields Initiative is about partnerships—with other Federal, State, and local agencies, and diverse stakeholders. In response to community requests for better governmental coordination, EPA established an Interagency Working Group which included more than 20 Federal departments and agencies. This Working Group led to the establishment of the "Brownfields National Partnership Agenda." The National Partnership was announced in 1997 and was established as a forum for Federal agencies to exchange information on brownfields-related activities and to develop a coordinated national agenda for addressing Brownfields. The National Partnership Agenda included Federal commitments of $300 million intended to leverage billions in private investment. Collectively, 25 public and private entities contribute The National Partnership. The centerpiece of the Partnership is the Brownfields Showcase Communities Project. Announced by Vice President Gore in March 1998, the Showcase Communities Project brings together the technical, financial and staff resources of EPA and its Federal partners in support of 16 communities chosen from among more than 200 applicants. The goal of the Brownfields Showcase Communities Project includes promoting environmental protection and restoration, economic redevelopment, job creation, community revitalization, and public health protection through the assessment, cleanup, and sustainable reuse of brownfields. The project will also demonstrate the benefits of public and private collaboration in dealing with brownfields challenges.

Federal support and coordination have also been demonstrated through the establishment of Memoranda of Understanding. The Environmental Protection Agency (EPA) currently has Memoranda of Understanding (MOU's) with: the Department of Interior's Rivers, Trails, and Conservation Assistance Program (RTCA); the Department of Housing and Urban Development (HUD); the Department of Labor's

Employment Training Administration (ETA); the Department of Commerce's Economic Development Administration (EDA); the National Oceanic and Atmospheric Administration (NOAA); the Department of Agriculture; and the General Services Administration. These agencies and EPA have collaboratively established policies and procedures to support the Brownfields Initiative.

SF: ACTION PLANS FOR END OF FISCAL YEAR 2001

Question. What action plans do you have in place to reach your proposed goal of cleaning up 900 sites by end of 2001?

Answer. The goal of cleaning up 900 sites by end of 2001 is based on site management plans which are in place and provided by the regional site managers in CERCLIS. The site plans outline activity starts, completions, and resource needs.

SUPERFUND/BROWNFIELDS: EMPOWERMENT ZONES

Question. How will the Brownfields initiative help empowerment zones like the one in Baltimore create jobs in our inner cities?

Answer: EPA believes that workforce development and job training are essential to the economic and environmental redevelopment of inner city communities, like the Empowerment Zone in Baltimore. Indeed, many of EPA's Brownfield assessment pilots are located in Federal Enterprise Communities/Federal Empowerment Zones communities (EC/EZ). Of EPA's 157 Brownfields Assessment Demonstration Pilots, over 40 percent are located in EC/EZ's. A range of tools to maximize investment and job creation are available within EC/EZ's. In addition, EPA and HUD are working together to understand the factors that impact urban investment and redevelopment decisions, and to collaborate in cities designated as EC/EZ's, where appropriate.

Under the Brownfields Initiative, EPA, in partnership with local job training organizations and community colleges, continues to develop long-term plans for fostering workforce development. The focus is on the creation of jobs related to cleanup and redevelopment for residents within affected communities. As a whole, these efforts are designed to guarantee that brownfields cleanup and redevelopment have the trained workforce needed to revitalize contaminated properties, and that local residents have an opportunity to compete in the economic mainstream.

The EPA, in partnership with local job training organizations and community colleges, continues to develop long-term plans for fostering workforce development in brownfields communities. Recently, the Agency accepted applications for Brownfields Job Training and Development Demonstration Pilots. The application period ended May 29, 1998 and the Agency intends to competitively select ten Pilots by July 8, 1998. The Brownfields Job Training and Development Demonstration Pilots will each be funded up to $200,000 over two-years. These funds are to be used to bring together community groups, job training organizations, employers, investors, lenders, developers, and other affected parties to address the issue of providing training for residents in communities impacted by brownfields. Pilot applicants must be located within or near one of the 121 pre-1998 brownfields assessment pilot communities. Colleges, universities, non-profit training centers, community-based job training organizations, states, cities, towns, counties, U.S. Territories, and Federally recognized Indian Tribes are eligible to apply for funds.

To date, 1,854 redevelopment jobs and 337 cleanup jobs have been created through Brownfields Assessment Pilots.

ENVIRONMENTAL TECHNOLOGY VERIFICATION SUCCESS

Question. Why hasn't the Environmental Technology Verification program been as successful as we had expected?

Answer. The U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification Program (ETV) began in 1996 in response to the President's Environmental Technology Strategy, Bridge to a Sustainable Future. The President's Strategy called for the Agency to create a market based verification program covering all technology categories within three years. EPA met this goal in July 1998. After two and a half years of operation, the program has established twelve pilot programs to verify the environmental performance characteristics of technologies in all environmental media (e.g., industrial pollution prevention, recycling and waste treatment, advanced and field monitoring technologies, air pollution control technologies, drinking and waste water systems), with four programs brought on line each year since the program began in 1996. Verification partners include two Department of Energy National Laboratories, a state government program (California), an industry association (the Civil Engineering Research Foundation), and five nationally known testing and standards development organizations (Research Triangle

Institute, Battelle, NSF International, Concurrent Technologies Corporation, and Southern Research Institute).

EPA sent an ETV Strategy to Congress in early 1997 for implementing the program within the required time period. The ETV Strategy lays out operating principals (e.g., use of public/private partnerships; active participation of stakeholders; voluntary participation of technology vendors; quality assured test protocols, test plans, data acquisition, and reports), budget projections, and verification goals. One of the program's major goals is to verify 300 technologies by 2005.

To date, eleven monitoring devices and one low NO_X fuel have completed testing, reporting and peer review, and have been issued verification statements. Fifty-four additional and quite varied technologies have been accepted into the program and are currently under evaluation (twenty-eight monitoring, eleven water, eight pollution prevention, and seven air technologies). Two pilots which began operation in October 1997 (air pollution and advanced monitoring) have received over seventy-five applications in the last two months. If this rate of technology participation continues, ETV will easily achieve the 300 verification target.

ETV recently published a program-wide Quality Management Plan, written under the ANSI E4 Environmental Technology Testing Standard. This document lays out the quality management criteria for and responsibilities of all of the governmental and private sector participants in the ETV program. It also stipulates procedures, format, data collection quality and output standards for the five year pilot period. All ten of the ETV partner organizations are required to produce Quality Management Plans consistent with this Plan within six months of being selected as partners to assure comparable quality across the program.

Moreover, an ETV Website has been in place since January 1997. It receives over seven thousand hits per month, with approximately 20 percent of the hits from foreign countries. Information ranging from meeting announcements to full scale testing protocols for all twelve pilots are on the single Website.

In April 1998, the program received Vice President Al Gore's National Performance Review Hammer Award.

We believe this young program has made significant progress toward meeting its goals. ETV is making a difference in the environmental technology marketplace and has the enthusiastic backing of numerous state regulatory organizations, industry associations, and private companies. Over the next two years, we expect to see an acceleration in the output of all of the ETV pilots now that the basic infrastructure of the program is fully in place. As the program continues, it will become largely self sufficient by 2005, with the Federal Government providing 10 percent to 20 percent of the peak annual EPA investment.

ENVIRONMENTAL TECHNOLOGY—WORKING WITH OTHER AGENCIES

Question. How is EPA working with other agencies to develop environmental technology?

Answer. The U.S. Environmental Protection Agency (EPA) works with other Federal agencies in environmental technology development across EPA in numerous program offices as well as the Office of Research and Development.

For instance, EPA has worked with DOE in a number of areas to improve the use of today's energy-efficient technologies, which simultaneously prevent pollution and lower energy bills. For example, EPA and DOE are working together, and in partnership with manufacturers, to identify energy efficient products through EPA and DOE's ENERGY STAR label. Together, EPA and DOE have formed partnerships that make hundreds of ENERGY STAR products, covering a large share of household energy consumption, and have a Memorandum of Understanding that outlines the responsibilities of each agency for the ENERGY STAR programs.

Another example of EPA's collaborations with other agencies occurs under the Science to Achieve Results (STAR) program. Under STAR, EPA has engaged in partnerships with other agencies to issue solicitations and jointly award research grants in two areas related to environmental technology. EPA and NSF have issued a joint solicitation for the past four years under the title "Technology for a Sustainable Environment", that focuses on cutting edge research in green chemistry and engineering. In the first three years, EPA and NSF together funded 62 projects totaling approximately $18 million. Similarly, EPA has joined with NSF, DOE, and the Office of Naval Research to issue a joint solicitation titled "Bioremediation", that addresses furthering the fundamental understanding of the chemical, physical, and biological processes influencing the bioavailability and release of chemicals in soil, sediments, and groundwater. In fiscal year 1996 and fiscal year 1997 the agencies awarded jointly 22 research projects totaling approximately $10 million.

Under EPA's Environmental Technology Verification Program (ETV), the Agency works with other agencies through a variety of mechanisms. As one of the charter members of the White House supported Environmental Technology Working Group, the ETV coordinator meets twice a month with twelve other agencies to review program progress and get input. The Department of Energy supports the two ETV partner organizations that are national laboratories, Sandia and Oak Ridge National Laboratories. Recently, the Department of Defense (DOD) and EPA have begun evaluating the possibility of reciprocal verification activities for technologies verified under the DOD Environmental Security Technology Certification Program.

Internationally, the Agency is supporting a number of cross-cutting initiatives on pollution prevention that directly or indirectly support the development, evaluation, and international dissemination of cleaner production practices and technologies applied in the United States.

ENVIRONMENTAL TECHNOLOGY—"ONE STOP SHOP"

Question. With the verification program, will EPA become the "one stop shop" for environmental technology?

Answer. The Environmental Technology Verification (ETV) program verifies the performance characteristics of commercial ready environmental technologies using objective and quality assured data. The program, which began in 1995, is designed to expedite the deployment of improved environmental protection technologies in the United States and abroad, with the intent of acting as a catalyst for commercial acceptance into the marketplace. The program is limited solely to technology performance verification. As stated in the ETV Verification Strategy sent to Congress in February 1997, EPA intends to sponsor the evaluation of environmental technologies through adequate testing and verify[1] that they perform at the levels reported. EPA does not intend to certify[2] that a technology will always, or under circumstances other than those used in testing, operate at the levels verified.

The ETV program does not cover all aspects of innovative technology commercialization. In particular, the program does not assist technology vendors with activities associated with the "one stop shop" concept, such as financing, business planning, export assistance, and marketing.

As discussed on pages 15–16 of the ETV Verification Strategy, the program begins a planned gradual decline of Federal funding in fiscal year 1999 with no plans to address all aspects of innovative technology commercialization.

INTERNATIONAL COOPERATION ENVIRONMENTAL STATUS

Question. What is the status of your efforts to expand international cooperative efforts concerning the environment?

Answer. International cooperation will be critical to the achievement of EPA's strategic objectives. The Agency's international programs help reduce environmental threats along our borders; lower global and regional environmental risk; and elevate the quality and reduce the cost of environmental protection in the United States. They also serve broader U.S. economic, political, humanitarian and national security interests.

We are focusing our efforts on Agency goals related to protection of North American ecosystems, climate change, stratospheric ozone depletion, persistent toxic pollutants, and achievement of cleaner and more cost-effective practices.

Question. What is the level of cooperation with agencies in other countries concerning this new effort?

Answer. Working closely with the State Department, EPA has strong bilateral and multilateral ties with key environmental counterparts in Asia, Latin America, Europe and elsewhere around the world. In the past two years, for example, the Agency has strengthened cooperation with other G–8 countries on children's health protection, climate change, environmental crime and environmental foresight. We have also worked with the Governments of Mexico and Canada and with many other countries in reducing transboundary and global environmental risks.

In addition to joint pollution abatement efforts, scientific, technical and policy exchanges enable us to share the results of over 30 years of experience in the United States and to benefit from scientific, technological and other breakthroughs achieved

[1] Verify/Verification in this context means to establish or prove the truth of the performance of a technology under specific, predetermined criteria or protocols and adequate data quality assurance procedures.

[2] Certify/Certification in this context is to guarantee a technology as meeting a standard or performance criteria into the future.

in other countries, thereby lowering the cost of environmental protection in the United States.

INTERAGENCY COORDINATION OF HEALTH AND ENVIRONMENTAL ACTIVITIES

Question. Given the large number of other Federal agencies with responsibilities that crosscut EPA's, how can we and the taxpayer be assured that EPA is not requesting funds for activities that duplicate those of other agencies or that could best be undertaken by those agencies?

Answer. EPA is currently involved in a number of programs that cross-cut agencies. To avoid duplication of effort, EPA works through a number of processes and approaches such as Memorandum of Understandings (MOU's), workgroups, clearance of position papers and extensive interactive communications with these other agencies. We are constantly involved with other Federal agencies as we develop our budget request for these cross-cutting programs. This approach ensures that responsibilities are assigned to the correct agency and that funding requests to Congress are not duplicated. This, in turn, ensures savings to the taxpayers.

There are numerous examples of this cooperation between the EPA and other Federal agencies. For instance, EPA's Brownfield Initiative has MOU's with the Departments of Housing and Urban Development, Labor, Interior, Commerce and the General Services Administration. In addition, the Vice President's Clean Water Action Plan documents the roles and responsibilities of each participating agency's efforts towards ensuring clean water. The report contains "key actions" which clearly outline Federal commitments performed by these agencies, such as EPA, USDA, DOI, and the Army Corps of Engineers. The Brownfield Initiative and the Action Plan are prime examples of interagency coordination without duplication of effort.

EPA's Climate Change Technology Initiative (CCTI) partners with many different agencies to prevent duplicating work. A great example of this is the Partnership for a New Generation of Vehicles (PNGV) program. PNGV draws on the resources of seven Federal agencies which are actively contributing to the development of new technologies. For instance, EPA's National Vehicle and Fuel Emissions Laboratory is specifically equipped to focus on high-payoff, high-risk automotive technologies to reduce pollutants, especially carbon dioxide emissions, therefore, its focus will be to determine whether specific designs that could achieve the PNGV target fuel efficiency could also provide a commensurate reduction in greenhouse gases and criteria pollutant emissions. The Department of Commerce has several major programs specifically designed to spur industrial innovation, accelerate the use of new technologies, and encourage industry to improve quality. The Department of Defense is engaged in the development of military vehicles with major improvements in performance and efficiency.

EPA routinely collaborates with a number of other Agencies in order to effectively implement the Pesticides and the Toxics programs. Regular and ad hoc meetings and information-sharing occur at every level of the organization to ensure careful planning and avoid duplication of effort. USDA in particular is a key component of the Federal strategy to ensure safe use of pesticides and food safety for the public. The Toxics program works closely with HUD and OSHA to implement the Lead abatement, asbestos protection, and other programs designed to protect human health and the environment. Joint planning and collaboration include Memoranda of Agreement and Inter-Agency Grants as well as participation in longer-term, comprehensive planning discussions across multiple agencies.

Furthermore, the Office of General Counsel has relationships with agencies to avoid duplicating cross-cutting functions and costs. The LEXIS computer system is accessed through an inter-agency agreement with the Library of Congress. Contract appeals are handled through an interagency agreement with the Department of Labor, and general legal coordination is provided through the Department of Justice.

HEALTH AND ENVIRONMENTAL ACTIVITIES:INTERAGENCY PROCESS

Question. Your strategic plan indicates that you have already initiated a process with other agencies to review crosscutting areas. Could you explain that process and when will we see the results? Have you been getting good cooperation from other agencies?

Answer. EPA has been engaged in a number of activities to ensure that our activities, as outlined in the Agency's Strategic Plan and Annual Performance Plan, are well coordinated with other Federal agencies. Last summer, the Agency reviewed the draft or final strategic plans of 28 agencies or major bureaus. These reviews underscored that much work needs to be done to better coordinate programs across government.

EPA has a history of working cooperatively with other agencies. We have always acknowledged the need to engage these agencies on specific cross-cutting issues. For example, the issue of wetlands has brought many agencies together to focus on the best ways that we can leverage Federal activities.

EPA has taken a number of steps in the last year to lay the groundwork for improving our communication with those agencies with whom we share cross-cutting issues. First, EPA supports the National Academy of Public Administration's Consortium on Improving Government Performance. One of the issues being addressed by the consortium is how to effectively conduct crosscutting coordination.

Second, the Agency is working with a number of interagency groups to increase efforts to reconcile planned activities and develop consistent performance measures. One of these groups is the Natural Resources Performance Measures Forum. The Forum consists of Federal agencies and their bureaus with a focus on natural resources. The Forum includes EPA, the Department of Interior, Department of Agriculture, Department of Energy, National Oceanic and Atmospheric Administration, and the Army Corps of Engineers. The Forum is currently working with the Interagency Clean Water Action Plan Steering Committee to pilot an approach on interagency coordination using water programs as the focus.

The Agency recognizes that effective coordination among Federal agencies is an incremental process and will require a concerted effort by program offices throughout government.

ENVIRONMENTAL DATA: COMPREHENSIVE AND RELIABLE DATA

Question. Comprehensive and reliable data on the environment has been a long-term need. Where do we actually stand and what are you doing to fill the gaps that NAPA and GAO have pointed out in the EPA's environmental data systems?

Answer. EPA is undertaking a number of activities to improve the quality and reliability of its data systems, considering input from NAPA, GAO, and statutory laws. The Center for Environmental Information and Statistics and the Office of Information Resource Management are currently accessing data to gaps and identifying the priority data needed to implement the Government Performance and Results Act (GPRA). In addition, the Reinventing Environmental Information (REI) program provides a framework for many of these efforts. Under REI, EPA is developing both data standards and electronic reporting standards. Over the next five years, all of the Agency's major systems will be revised to incorporate these data and electronic reporting standards. The data standards will allow cross-media integration of data and improve reliability of the data by eliminating errors associated with transferring information from paper to electronic form, and will reduce duplication of data collected. In implementing standards and electronic reporting, many of the Agency systems will be re-engineered using state-of-the art technology that will also improve reliability.

Through the Environmental Council of the States, EPA is working closely with the states on REI and other data quality issues. The One-Stop program provides a framework for EPA and states to coordinate their information needs and system development activities to reduce duplication and increase reliability.

ENVIRONMENTAL DATA: DATA PRIORITIES

Question. Could you briefly describe your data priorities, how these were arrived at, and how they are reflected in the performance plan and budget?

Answer. The Agency's Reinventing Environmental Information initiative has a plan for improving the standards for EPA's data so that the data can provide decision makers with necessary information on how to protect human health and the environment. Additionally, the Agency's data priorities are determined by the individual data requirements of each program office. A high priority is the expansion of our efforts for Americans' right-to-know about their environment that cross programs. We are providing spatial data as well as other data in an effort to support performance outcome measurement and community-based environmental protection. We continue to seek stakeholder input to help us set our data priorities in a manner informed by their needs. We have found that our flexibility to obtain new data is limited by the requirements to meet statutory mandates within budget constraints.

PEER REVIEW: STATUS TO ADDRESS CONCERNS

Question. Could you please inform this subcommittee about the current status of actions to address concerns that EPA's peer review policy is being implemented unevenly across the agency?

Answer. The Agency has taken a number of steps to ensure that the Peer Review Policy is being implemented consistently across the Agency. In January 1998, a re-

port on the 1997 evaluation of peer review implementation across the agency was submitted to the Deputy Administrator by the Office of Research and Development. This report contained a number of suggestions for improving the clarity and documentation of peer review policies and procedures across the Agency. On February 25, 1998, the Administrator and Deputy Administrator cosigned a memorandum that released the Peer Review Handbook for use across the Agency. The Handbook was prepared in response to the findings of the 1997 evaluation and provides a common base of information for use by Agency staff in identifying products for peer review and planning, conducting, and documenting peer reviews of scientific and technical products used in Agency decision making. The Peer Review Handbook was developed by the Peer Review Advisory Group of the Science Policy Council; this Group represents both Headquarters and Regional organizations and has extensive experience in both conducting and overseeing peer review. The Handbook was reviewed by the Science Policy Council, its Steering Committee, and the Peer Review Coordinators from each major Agency organization before it was approved for use. Since the issuance of the Handbook, training material has been developed and presented to the Peer Review Coordinators from each Assistant Administrator and Regional Administrator's office. The material for use in training managers and peer review leaders is being revised based on feedback from its initial presentation and will be made available across the Agency by mid July.

PEER REVIEW: ESTABLISHMENT OF SPECIFIC CRITERIA BY CONGRESS

Question. Given GAO's March 1997 testimony and your acknowledgment at the same hearing of inconsistent peer review implementation, would it be helpful now for the Congress to establish some specific criteria for peer review of the scientific and technical work products that underlie EPA's major actions?

Answer. At this time, we feel that the Agency's criteria for selecting products for peer review are sufficiently detailed to ensure their consistent application. EPA is committed to using the best possible science and peer review for rule making. Therefore, we feel that it is not necessary for Congress to establish peer review criteria for our scientific and technical work products.

The recently issued Peer Review Handbook provides expanded guidance on the selection of products for peer review and requires increased management involvement in the development of lists of products for peer review and in the decision to review specific products from the lists. The Handbook is located at http://www.epa.gov/ORD/spc/sopmenu.htm on the Internet.

PEER REVIEW: CLEAN AIR SCIENCE ADVISORY COMMITTEE

Question. Isn't it true that one of the major successes that EPA now points to is the Congress' establishment of the Clean Air Science Advisory Committee, or CASAC, review process?

Answer. It is true that the CASAC mechanism for peer reviewing science that underlies Agency decisions on air pollution standards is an effective mechanism for ensuring quality of the science. In fact the CASAC is only one of a many peer reviews that are managed by the Agency's Science Advisory Board (SAB). The same standards for selection of experts, appropriate balance and independence that guide the CASAC process also guide the operation of the other review panels convened by the SAB. The Agency's recently released Peer Review Handbook outlines the same objectives and similar procedures for all peer review panels utilized by the Agency to peer review major scientific and technical documents.

PEER REVIEW: NUMBER OF STAFF TRAINED

Question. In 1996, the GAO recommended that the EPA educate staff and managers on the need for and benefits of peer reviews. How many staff have been trained in the proper techniques for carrying out peer review activities?

Answer. As the Peer Review Handbook was being developed, the Office of Research and Development (ORD) developed a strategy for distributing the information in the Handbook across the Agency. The strategy called for development of training materials to be used by organizations' Peer Review Coordinators in training managers and peer review leaders about their responsibilities in the peer review process. The Peer Review Coordinators received the training in May 1998. The training materials used in May have been revised based on comments received after the session. The Peer Review Coordinators are responsible for providing training to managers and others within their organizations. We expect to complete training of Decision Makers, line managers, and Peer Review Leaders during fiscal year 1998.

PEER REVIEW: PEER REVIEW AND PEER INVOLVEMENT

Question. GAO also found a few years ago that some EPA offices routinely used employees from the same office to comment on their own work products and called this peer review. EPA's own Science Advisor at the time said that this was peer involvement—a valuable tool—but that it fails to the independency requirement for peer review. Has the difference between peer review and peer involvement been clarified for EPA staff?

Answer. The Peer Review Handbook clearly defines peer review and peer involvement as separate, and distinctly different forms of review. Sections 1.2.2, 1.2.3, 1.2.4, and 1.2.5 of the Handbook discuss the definitions of and differences between these terms, including the term peer input. In general, peer involvement involves the active outreach to and participation by the broad scientific, engineering, and economics communities. Peer involvement can take the form of peer review or peer input. Peer Review is a documented critical review of a specific Agency work product. The peer review is conducted by qualified individuals who are independent of the work to be reviewed and are collectively equivalent in technical expertise to those who performed the original work. The peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established quality requirements. Peer input generally involves an interaction during the development of an evolving product, providing an open exchange of data, insights, and ideas. Whereas peer review tends to be a one-time interaction or a limited number of interactions by independent peer reviewers, typically upon culmination of the work product, peer input tends to be continuing and iterative as a product is being developed, such as that provided by a workgroup with continuous involvement in the development of a product.

Peer input can play an important role during the development of most products, as it provides additional information and points of view to the process. However, it does not substitute for peer review, which is the review of a product by independent reviewers who have not had prior involvement with the product. Even though a product has benefitted from substantial peer input, peer review would still be necessary if the product was being used to support an Agency decision.

PEER REVIEW: EXPANSION OF CURRENT LIST RECOMMENDATION

Question. GAO was also concerned that various scientific and technical work products could fall through the cracks without EPA senior managers' awareness and approval that such products not be peer reviewed. GAO recommended that you expand the current list of products nominated for peer review to include all major products, along with explanations of why individual products are not nominated for peer review. Has this GAO recommendation been implemented? If not, why not? Also, do you intend to have the MOBILE5a and other key models peer reviewed?

Answer. Yes, the GAO recommendation regarding expansion of the listing process to include all scientific and technical work products was included in the 1997 reporting on peer review implementation and has been included in the Peer Review Handbook.

The Peer Review Handbook clearly includes models within the definition of scientific and technical work products. If the model is new or has major impact across a large area or to a large segment of the regulated community, then the model is a candidate for peer review. Also, if a previously peer reviewed model is being used in a circumstance that was not covered by the earlier review or has been substantially modified, then it would be a candidate for additional review. The MOBILE5a model will be peer reviewed. In fact, we intend to have all newly developed models undergo peer review.

REINVENTION: GAO RECOMMENDATION

Question. GAO's July 1997 report on EPA's Reinvention program cited widespread concerns over the large number of complex and demanding initiatives now being undertaken, as well as confusion over the underlying purpose of some of the agency's many reinvention initiatives. The GAO also made several recommendations to correct this problem. Has EPA done anything in response to these concerns and the GAO recommendations?

Answer. EPA has taken a number of steps to address GAO's concerns and is continuing to make progress on all four of GAO's recommendations.

EPA recently issued a short document, "Reinventing Environmental Protection—EPA's Approach," (attached) that explains the need for reinvention, the agency's objectives for reinvention, and a framework that illustrates how EPA's reinvention activities fit together into a cohesive approach for improving environmental protection.

Additionally, the Office of Reinvention developed an initial inventory of reinvention initiatives and programs last fall, and this inventory was used to identify key cross-cutting areas where greater focus and coordination is needed, for example:

Permitting.—Drawing on the many recommendations and experiments to reinvent permitting, the Agency has developed and is now implementing a "Permit Action Plan" that identifies a key set of activities, responsible offices, and time frames, for permit reform at EPA.

Sector-based approaches.—In February, the Administrator and Deputy Administrator directed that the Agency's senior management work with the Common Sense Initiative (CSI) Council to develop an action plan that will integrate sector-based approaches into the fabric of Agency programs. The action plan, to be completed this fall, will define actions based on CSI "lessons learned" and will address issues such as stakeholder involvement in sector-based approaches.

Environmental Management Systems (EMS's).—The Deputy Administrator directed the Office of Reinvention to bring together the various efforts relating to EMS's and ensure that EPA speaks with a consistent voice in this area. As part of that effort, EPA published a position statement in the Federal Register in March, publicly expressing support for the use of EMS's in the regulated community, and also announcing an effort to evaluate the effects of EMS's on environmental performance, compliance, cost, and other important dimensions.

The second GAO recommendation suggested that EPA needed to clarify the circumstances under which unanimous agreement in a stakeholder process is required. This recommendation was primarily intended for CSI—where some have felt that progress has been hindered by the difficulty in reaching full consensus. Last November, the CSI Council approved a guidance document on the principles and applications of consensus, and this document is proving to be a useful tool for the Council and sector subcommittees.

The third GAO recommendation emphasized the need for improved internal management processes for problem-solving and decision-making. In 1997, the Office of Reinvention was created to improve management and coordination of reinvention activities across the Agency. Additionally, the senior career managers in the Agency (i.e., the Deputy Assistant Administrators and Deputy Regional Administrators) have been designated by the Deputy Administrator to facilitate quick resolution of issues arising in the implementation of reinvention projects within their offices. And, the Office of Reinvention convenes meetings of these senior managers quarterly, to provide guidance and make decisions on the Agency's reinvention activities. As EPA embarks on new reinvention efforts, the Agency is defining explicitly the management authority and accountability structures that foster timely and efficient decision-making. For example, under the new agreement with the states on innovation, the Regional Administrators are identified as the responsible decision-makers on state proposals for innovation, and we have defined appropriate time frames for decision-making.

Finally, the fourth GAO recommendation stated that each of the agency's reinvention initiatives should include an evaluation component. EPA has contracted with the National Academy of Public Administration (NAPA), as directed by the Appropriations Committee, to conduct external evaluations of key reinvention activities. An important part of NAPA's work will include helping to build evaluation capacity within EPA, such as providing training and guidance materials. The Office of Reinvention has established a senior evaluation position to work with EPA reinvention project leaders on evaluation. Evaluation components are underway or are being developed for key reinvention initiatives such as Project XL, the Common Sense Initiative, Brownfields, the compliance assistance centers, and the National Environmental Partnership Program with the states. Finally, EPA is increasing its use of customer satisfaction surveys in many areas, to ensure that our activities are responsive to customer needs.

REINVENTION: STATUTORY CHANGE NOT WARRANTED

Question. EPA's past position has been that statutory change is not warranted to facilitate reinvention of environmental regulation. Has that position changed in recent months?

Answer. In general, EPA does not think that new legislation is necessary to carry out the work of reinvention. Indeed, we are making significant progress in finding cleaner, cheaper, and smarter environmental solutions under the existing legal structure. We do think that in some discrete areas legislation could be helpful, as long as it has a broad base of support. For example, we are supporting the "Innovative Environmental Strategies" bill introduced by Sen. Lieberman because creating a clear legal framework for experimentation may encourage more companies to par-

ticipate in reinvention programs and give stakeholders more confidence in those programs. However, we do not believe such legislation is needed in order to proceed with Project XL, CSI and similar efforts.

RIGHT-TO-KNOW: PLAN TO ACCESS IMPACT

Question. In the spirit of the Government Performance and Results Act, how do you plan to assess the impact of the Right to Know or public outreach efforts in achieving the agency's goals for a clean environment?

Answer. The success of the Agency's Right-to-Know or public outreach efforts is ultimately determined by increased understanding and actions by the public about their environment. We believe that with increased knowledge, the public will be able to make decisions to help solve the nation's environmental problems, particularly at the community level. EPA is helping the public develop these capabilities by providing the information, data, tools, and skills to take effective action. Measures to assess our progress will focus in three areas—information access, stakeholder awareness, and improved environmental conditions in targeted areas.

Various means will be employed to assess the impact of these efforts. One way will be by assessing the number of people who access our information. Technological advances in disseminating information, such as through the Internet, will help us assess this impact easily. With regard to providing information to low-income and rural communities that lack access to computers, and the Internet, EPA has made efforts to determine the best way to provide these communities with right-to-know and assess the impact of these efforts. Over the past year, in more than 30 meetings that we have convened with environmental information user groups (including representatives of low-income, low environmental literacy and rural groups) our "environmental information" customers have indicated that they often depend on intermediary organizations who have more immediate contact with them, a track record of communicating technical and scientific information in layperson's terms, and who are often focused on addressing a particular health or environmental issue. Rural information users for example, said that they depend on accessing EPA data and information from local USDA extension agents and NIOSH staff who are involved in worker safety issues, most frequently via newsletters and workshops (during non-growing seasons).

In a meeting with the Afro-American community in Philadelphia, Pennsylvania, our customers said that they depend on community newspapers and telephone services to access EPA information. To be successful, EPA will need to establish partnerships with these intermediary organizations and develop the means to provide access that are preferred by the end users. For example, EPA's new Center for Environmental Information and Statistics, last week, launched a new web site in partnership with the Federal depository library system and the American Library Association, in order to provide more than 170-million Americans in urban and rural areas, access to the Internet and EPA information resources via 16,000 public branch libraries nationwide. In the Brooklyn neighborhood of Baltimore, Maryland, EPA and several other community-based groups are cooperatively monitoring, analyzing and reporting air emissions and water pollution levels in a partnership that provides all community residents access to environmental data and information.

We will also determine whether the public find the information they receive useful. A classic example of this involves our Toxic Release Inventory data which is collected and provided to the public to inform and assist them in protecting their families and their communities. EPA conducts periodic focus groups and feedback sessions to ascertain how well the public understands and uses these TRI data. The TRI program is proposing to conduct follow-up monitoring in areas of the country where there have been reports of high volumes of toxic releases, to ascertain whether or not the provision of TRI data and information has led to actual decreases in emissions.

RIGHT-TO-KNOW: ACCURACY OF INFORMATION

Question. In the push to carry out Right-to-Know activities at the program level, what controls do you have in place to ensure that the information provided the public is accurate, complete, and put in the proper context to avoid raising undue concern or inappropriate use of the data?

Answer. EPA is committed to improving the accuracy and completeness of the information it provides to the public. At the same time, the Agency also is committed to making its information publicly available unless there is a specific statutory basis for withholding the information. Our focus has been on making data more readily available, without interpreting the data for the public. To put information into proper context and to enhance understanding, EPA is expanding access to and availabil-

ity of metadata on Agency information, that is descriptive information such as definitions, origin, source, and any data describing how, why, or when the data was collected including indications on the accuracy of the data or its precision. Metadata provides a high-level of information about the characteristics of the data contained in the database. It answers the important questions which inquire into the background and history of the data set. EPA's new CEIS website will include very thorough discussions of the strengths, weaknesses and appropriate uses for EPA environmental data available on the website. We seek to help people understand the data they are reading, as well as its potential uses and limitations, by providing metadata along with the actual data. The Agency is also striving for continuous improvement in quality of information, recognizing that no set of information will be completely free of errors and inadequacies. Feedback from the public and from regulated entities is an important part of the information quality improvement process, as stakeholders often are best able to recognize and comment on errors. When information is not publicly available, EPA loses the benefits of such feedback.

As part of our commitment to the public Right-to-Know initiative, the Agency is developing a Data Quality Strategic Action Plan, due for completion by September 30, 1998. The plan will address issues and concerns related to data quality, accuracy, completeness, and reliability, and will define a process for addressing these problems.

The Agency's Reinventing Environmental Information (REI) initiative was established in an effort to improve our ability to collect and report accurate data to the public, with less burden to industry. Under REI, EPA is developing data and electronic reporting standards. Among other things, these standards will improve the quality and reliability of our data by allowing cross-media integration of data, and eliminating errors associated with transferring information from paper to electronic form.

RIGHT-TO-KNOW: ESTABLISHING STANDARDS OF ACCURACY

Question. Have you established any standards as to the accuracy, completeness, reliability, or proper context that data must meet before it is made available to the public?

Answer. EPA is committed to accurate, complete, and reliable data collection and provision, consistent with our statutory mandates, mission, available resources, and burden reduction goals. Similarly, we seek to provide good metadata to help furnish a context for interpretation of our data. Metadata provides a high-level of information about the characteristics of the data contained in the database. It answers the important questions which inquire into the background and history of the data set.

The EPA is undertaking a number of activities to improve the accuracy and reliability of its data. In response to Congressional and public interest in EPA's data, and awareness about data errors in EPA's national systems, the Administrator has tasked the Chief Information Officer with developing a Data Quality Strategic Action Plan. This plan is due for completion by September 30, 1998. It will define the problems, present strategies and costs for addressing them, and lay out a process, responsibilities, time-lines, and costs. The plan is a management approach to changing behaviors and processes both internally and externally that will allow the Agency's program and Regional managers to correct data quality problems now, and avoid them in the future.

In an effort to improve our ability to collect and report accurate data to the public, we have launched the Reinventing Environmental Information (REI) initiative. Under REI, EPA is developing data standards and electronic reporting standards. Over the next five years, all of the Agency's major systems will be revised to incorporate these data and electronic standards. The data standards will allow cross-media integration of data and improve reliability of the data. Electronic reporting will improve the quality and reliability of the data by eliminating errors associated with transferring information from paper to electronic form and will reduce duplication of data collected. In implementing standards and electronic reporting, many of the Agency systems will be re-engineered using state-of-the-art technology that will also improve reliability.

RIGHT-TO-KNOW: SECURITY OF DATA

Question. Considering your efforts to make more data available to the public on the Internet, what controls do you have to protect the security of the data from intruders or hackers? (In September 1997, the EPA Inspector General reported that it had found several cases of hacker intrusion.)

Answer. EPA employs multiple security mechanisms to protect data from intruders or hackers.

For the Network.—Physical access to EPA's internal network is controlled by requiring that data reside in EPA (leased or owned) facilities and we allow only one connection between the Agency's internal network and the Internet, and protect this connection with a "firewall".

Access to privileged commands on the network infrastructure is restricted to a small number of key individuals. EPA's network router audits trails daily for activities that could indicate the presence of an intruder or a hacker on the Agency network. Suspected problems are quickly followed up with the appropriate internal and external security groups, the Inspector General, and law enforcement groups, if necessary. EPA monitors and implements the appropriate security alerts and controls recommended by government and industry security groups. As such, EPA has installed direct controls on the Agency firewall router which is the single point of connection between EPA and the Internet. These targeted controls ward against antispoofing, discovery of the topology and structure of our network, blocking NetBt and SNMP, and other items recommended by national security organizations.

Finally, the EPA contractor and Federal Network Information Technology staff maintain a constant state of training and alert status relative to the technical aspects of state-of-the-art networking, network security, and damage/waste prevention.

For the Public Access Server.—EPA controls physical access to the computer systems on which the public access data resides. For purposes of data update, the Agency also limits network access to the system to registered users, coming from registered Internet addresses.

Access to privileged commands is restricted to system administrators on a need-to-use basis. EPA employs Class C2 security on all our central systems, in accordance with the Department of Defense Trusted Computer System Evaluation Criteria, DOD 5200.28–STD (commonly called "The Orange Book"). All central systems separate user data areas from those of the operating system, and maintain separate access controls for each user's data. The data for each user and project is only modifiable by users and groups authorized by the user owning the data.

The Agency maintains audit trails of significant system events (log in successes and failures, failed access attempts against system level files, and privileged command use), and reviews system audit trails routinely to detect potential threats to system, application, or data integrity. Further, the Agency records checksums on important system files and use automated monitoring for any change to alert us to possible tampering.

Operations staff monitor the public access systems twenty-four hours a day, seven days a week, to assure their availability and integrity. Security alerts are monitored from government and industry security groups. As a result, EPA regularly installs software patches and initiate procedures necessary for system and data security.

Persistent intrusion attempts are detected occasionally, as we did in both the incidents reported by the Inspector General and in other situations where no actual intrusion occurred. If any intrusion does occur as a result of previously unidentified security vulnerabilities (e.g., in system software), situation-specific steps are taken to contain and then eliminate the intrusion. Its impact is then assessed and its effects reversed, restoring data and service as expeditiously as due diligence allows. The Agency also maintains backup copies of all data, including off-site copies, to prevent data loss for any reason.

RIGHT-TO-KNOW: SECTOR FACILITY INDEXING PROJECT

Question. A serious concern recently reported in the trade press is the issue of data reliability as it involves EPA's Sector Facility Indexing Project (SFIP), initially scheduled for January 1998 implementation. What is EPA doing to resolve these concerns—especially as they relate to the SFIP's use of chemical release toxicity weights?

Answer. EPA worked for three years to identify the facilities to be included in the SFIP, and to collect and verify the data. Each facility received a copy of its compliance and enforcement data for review, to identify any problems before the information was distributed through the SFIP.

Prior to the industry data review, EPA specifically asked the states to review the data and make changes, as appropriate. Based upon these data reviews, EPA believes that the information in the underlying databases is generally of high quality. EPA will continue to work with stakeholders to ensure the greatest possible quality of data in the SFIP.

In total, facilities commented on 4 percent of the 38,000 major data elements they received for review. About half (53 percent) of their comments were accepted. The remaining 47 percent were either inaccurate (the review determined that the data

was correct and no change was necessary) or the facility comment was not accompanied by the necessary documentation to explain the facility's position in order for a determination on the accuracy of the comment to be made.

The accuracy of the data depends upon reliable reporting by states, local agencies, and industry. Accuracy also depends upon correct recording of information by regulatory agencies at local, state, and Federal levels. EPA, in conjunction with the affected stakeholders, will continue to work on improving the quality and consistency of the underlying data. EPA has set up an SFIP Hotline (617–520–3015) for users to ask questions about the data and has also established a "comment page" on the SFIP website for users to submit their comments instantly.

Toxicity Weights

Based upon stakeholder comments that known chemical toxicity data should be used to distinguish chemicals of high hazard from chemicals of lower hazard, a toxicity-weighting system for facility-specific TRI data was developed for the SFIP. This system was considered to be an interim step towards incorporating relative risk-based information, which is a long-term goal of the SFIP. The EPA Science Advisory Board (SAB), which reviewed EPA's toxicity weighting methodology, confirmed that a toxicity-weighted approach is "a step in the right direction" and that the scientific underpinnings of the toxicity weightings are sound. However, EPA also received comments from many stakeholders that toxicity data do not go far enough in examining potential risks and that risk components should be factored into the SFIP along with toxicity weights. Toxicity weighting allows users to examine where potential hazards may be without respect to whether population may be affected, whereas relative risk-based analysis examines potential interactions between chemical releases, toxicity, weather patterns, chemical dispersion properties, and surrounding populations.

Although EPA concurs with the SAB that toxicity weighting is a step in the right direction and is useful on its own, the Agency also agrees with stakeholder comments that relative risk-based analysis is of equal, if not greater, importance. Therefore, facility-specific, toxicity-weighted TRI data have not been included in the initial release of the SFIP. EPA plans to incorporate both toxicity weights and risk-based analysis into future SFIP iterations.

RIGHT-TO-KNOW: SFIP'S IMPLEMENTATION STATUS

Question. What is the SFIP's implementation status?

Answer. The SFIP became available on the Internet for use by the general public on May 1, 1998. The SFIP Internet address is as follows: http://www.epa.gov/oeca/sfi.

A system has been established for making changes to the SFIP data. To report a possible inaccuracy, users can call the SFIP Hotline at 617–520–3015 and explain their concern. They will then be directed to the proper individual within EPA. In addition, a "comment page" is located on the SFIP website for users to instantly submit comments on any aspect of the project, including concerns with regard to the data.

EPA also plans to release summary SFIP information in a hard copy format in the near future.

RIGHT-TO-KNOW: ADEQUACY OF DATA DISSEMINATED THROUGH "ENVIROFACTS"

Question. Another area of concern is the adequacy of environmental data from seven EPA program systems that are integrated and disseminated through the EPA's "Envirofacts" database on the Internet. Critics, including a former EPA official, say that Envirofacts does not provide enough context for the public and other users of the database and that this could lead to misuse. What, if anything, is EPA doing to address these concerns and to help Envirofacts users understand the data?

Answer. Envirofacts provides public access to a wide range of non-sensitive EPA information, such as environmental, facility, and spatial data, to Federal agencies, states, environmental interest groups, the regulated community, and the general public. It eliminates the need to obtain information from multiple systems individually. The purpose is to provide reader access to the public data and, therefore, EPA makes no value judgments. EPA seeks to support sound science and the public's right-to-know initiative by presenting factual data through Envirofacts. Other interested parties are then allowed to interpret the data as they see fit. Several tools are readily available within envirofacts to assist the interpreter in understanding the data.

More specifically, such tools include an ability to overview the information, the metadata warehouse, and a data dictionary. Envirofacts provides an overview to in-

troduce the user to the information. Metadata provides a high-level of information about the characteristics of the data contained in the database. It answers the important questions which inquire into the background and history of the data set. Users are encouraged to consult the metadata to understand and make better use of the Envirofacts database. Finally, a complete data dictionary is available to assist users with the technical and scientific jargon. There are no explicit constraints on the use of the data because of its public nature.

EPA has supplied these tools to aid in the understanding of the raw facts. It is up to the viewer to interpret the data as they see fit and, as a result, the interpretation depends on the viewpoint and the motives of the interested party. We are exploring through our Center for Environmental Information and Statistics (CEIS) ways to support the interpretation of our data and expect to make progress in this area as CEIS becomes fully operational.

RIGHT-TO-KNOW: LEGAL AUTHORITY TO GATHER TRI INFORMATION

Question. Does EPA have sufficient legal authority to gather and disseminate the TRI information it needs to meet its right-to-know responsibilities under the Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act? If not, what changes are needed?

Answer. Since the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted in 1986, EPA has successfully exercised its authority to gather and disseminate chemical release information on over 600 chemicals from 27 industries. The Agency has exercised authority under EPCRA to add and delete chemicals, add new industry sectors, modify reporting thresholds, and modify the reporting form. In addition, EPA has exercised its authority under the Pollution Prevention Act to collect and disseminate expanded TRI information related to managing waste and source reduction. The Agency is reviewing all relevant statutes and is considering a variety of strategies that could be used, individually or in combination, to expand the reporting and public availability of information.

PERFORMANCE PARTNERSHIP: PROCESS VS RESULTS

Question. Initial feedback from states suggests that they like the focus of the NEPPS system on results, and that they believe the system has potential for providing them with greater flexibility. However, some have indicated that certain EPA Headquarters offices resist providing the added flexibility. EPA's Office of Enforcement and Compliance Assurance is often mentioned by state officials, who say that office is too focused on "process" rather than "results". EPA has expressed a desire to become more outcome-oriented and the states have encouraged the agency to move in that direction as well. However, the performance plan, in areas such as enforcement, establishes predominantly output performance goals and measures. Why do we have this disconnect between EPA's rhetoric and its 1999 performance plan and what is EPA doing to address this discrepancy?

Answer. Fiscal year 1999 is the first year for implementing GPRA and transitioning to a new budget and planning framework. EPA is committed to implementing an outcome-oriented management approach, and has worked actively with states over the past several years to develop outcome measures that clearly link activities to the achievement of environmental goals and objectives.

These new measures will allow flexibility while complementing existing output measures, such as the number of inspections or enforcement cases. As EPA and state leaders agreed when they signed the original agreement launching the National Environmental Performance Partnership System (NEPPS) in 1995, a mix of both output measures and environmental indicators will always be needed for program management purposes.

The Office of Enforcement and Compliance Assurance (OECA) is gradually combining outcome measures with output measures to provide a more complete assessment of performance. OECA has made progress in moving beyond tracking solely outputs and anticipates additional improvements in measures in future years. OECA currently collects outcome data, such as environmental results from enforcement actions, and reports this data in the annual Enforcement Accomplishment report.

In January 1997, OECA initiated the National Performance Measures Strategy "to develop and implement an enhanced set of performance measures for EPA's enforcement and compliance assurance program." We have spent over a year working with states, the regulated community and public interest groups to develop a workable set of measures. Developing this strategy clearly pointed out the difficulty in developing new outcome-oriented measures that fairly and adequately portray re-

sults. Despite these difficulties, the final report, issued in January 1998, describes the enhanced set of measures and a plan to implement these measures is underway.

PERFORMANCE PARTNERSHIP: CRITICISM ON PROCESS VS. RESULTS

Question. How do you respond to the criticism that some of EPA's offices, such as the Office of Enforcement and Compliance Assurance, resist providing states with the flexibility to focus their environmental programs on results, and instead compel them to focus on process-oriented activities?

Answer. All of the EPA National Program Managers (NPM), including the Office of Enforcement and Compliance Assurance (OECA), work closely with the states through the Environmental Council of the States (ECOS), to develop core performance measures (CPM) to measure state environmental performance. Core performance measures for the enforcement and compliance assurance program are referred to as "accountability measures." The accountability measures are in sync with OECA program measures, which relate directly to the Agency's goals and assist OECA in meeting its obligations under GPRA.

Core performance measures (including accountability measures) were issued under the "Joint Statement on Measuring Progress Under the National Environmental Performance Partnership System" signed by EPA and State officials in August 1997, which reaffirms our joint commitment to use core performance measures as tools to track progress in achieving results.

Current accountability measures are a mixture of outcome and output measures. Traditionally, EPA relied on output measures, such as the number of enforcement actions taken and inspections conducted. These will remain important measures of program performance and accountability for both EPA and the states because they assure the public of the government's presence, they provide accountability for Federal and state actions, and they give EPA and the states important information about how our strategies are working.

However, the core performance measures for states also reflect the progress EPA has made in developing outcome measures. Outcome measures included in the core performance measures are:

—rates of significant non-compliance by industry sector and by media;

—percent of significant violators in each media that have new or recurrent significant violations within two years of receiving a formal enforcement action;

—environmental and/or public health benefits achieved through inspection and enforcement activities (e.g., case settlements, compliance agreements, injunctive relief, Supplemental Environmental Projects); and,

—results or impact of using: state audit privilege or immunity law; state audit policies; state small business compliance assistance policies; and compliance assistance initiatives developed for specific industry sectors.

PERFORMANCE PARTNERSHIP AGREEMENTS AND GRANTS

Question. Will Performance Partnership Grants allow states to focus on the highest environmental priorities and effect real changes in the services delivered by states?

Answer. Under Performance Partnership Grants (PPG's), states can negotiate work plans with the U.S. Environmental Protection Agency (EPA) that direct Federal funds where the state needs them most to address environmental and public health problems. States can choose to combine funds from up to 16 different EPA grant programs into a PPG. EPA's goal in the PPG program is to provide as much flexibility to states as possible while assuring fiscal accountability and implementation of core environmental programs.

In the National Environmental Performance Partnership System (NEPPS), states and EPA jointly develop priorities and strategies based on an assessment of environmental conditions and program needs in the state. The Performance Partnership Agreements (PPA's) that result from these negotiations typically set out jointly developed goals, objectives, and priorities; the strategies to be used in meeting them; the roles and responsibilities of the state and EPA; and the measures to be used in assessing progress. A PPA is generally based on information about the environmental and program conditions of the state, as well as national and Regional priorities and concerns. A state may apply for and receive any grant, as well as a PPG, without negotiating a PPA. However, a PPA can provide the strategic underpinning for the work a state plans to carry out with EPA financial assistance, and in some cases, the PPA actually serves as the grant work plan.

In proposing to direct resources in a PPG away from lower priority areas to areas of greater need, states need only assure that base environmental programs will be carried out and explain why the proposed use of resources would be beneficial. Some

states are using PPG's to try new approaches, such as multi-media inspections, compliance assistance programs, and ecosystem management, that were difficult to fund under traditional categorical grant programs. By allowing states to combine two or more categorical grants, PPG's offer states an opportunity for administrative cost savings by not having to negotiate and track separate grants. Although states choosing to receive their Federal funds in PPG's may be realizing cost savings through the streamlined administrative requirements, any actual savings achieved by the states have not yet been quantified. A recent Management Assistance Review (12/97) by the EPA Inspector General of the PPA and PPG in Texas indicates that the state is seeing some administrative savings, but has not yet quantified them. Savings that are realized by the states will free up resources to do more environmental protection generally—providing benefits in all PPG states, including those not shifting resources among programs or to multi-media approaches.

Question. What changes are needed in EPA's oversight of the states in light of the state/Federal partnership implied by these grants?

Answer. Under NEPPS and PPG's, EPA still has responsibility and authority to conduct oversight of state programs under the various Federal environmental statutes. As one of its fundamental goals, NEPPS seeks to achieve more efficient and judicious use of this authority. The NEPPS process provides an opportunity for EPA and the state to discuss strengths and weaknesses in a state's environmental programs, and to design solutions to problems or rewards for good performance to suit the specific situation. Agreements reached about oversight are often articulated in the PPA itself.

Under NEPPS, EPA and individual states have negotiated such changes in oversight as reductions in the frequency of reports and on-site reviews, elimination of unnecessary reports, and direct information-sharing. In some states, EPA and the state are jointly carrying out tasks "side by side;" this approach allows EPA to oversee a state process while assisting the state in getting real work accomplished. In another example of how EPA is providing technical assistance, EPA staff were assigned to work part time in a state to help the state clear its significant permit backlog.

All Federal grants, including PPG's, are subject to government-wide performance and fiscal accountability requirements. EPA is responsible for ensuring that the state carries out the work the state agreed to perform and has properly used Federal funds. To build partnership into the grant process to the extent possible, EPA is working with the states to draft a revised rule governing EPA grants to states, which significantly streamlines administrative requirements. The new rule, as currently drafted, emphasizes joint planning and priority setting, promotes the use of a results- oriented management framework, and requires joint development and implementation of grant evaluation plans. EPA expects to propose this rule in fiscal year 1999.

Question. What progress have EPA and the states made in developing alternative measures of state performance?

Answer. EPA and the states have been working jointly in several different groups over the last few years to develop better performance measures. The principal focus of these groups has been to develop more results-oriented (outcome) measures which can be used in combination with the more traditional activity (or output) measures. In August of 1997, EPA and the Environmental Council of the States (ECOS), an organization comprised of senior state environmental officials, agreed to a set of fiscal year 1998 Core Performance Measures, as well as to the overall architecture, terms, and definitions for those measures. While many of the measures in that set are still considered "works in progress," this agreement was a major milestone in developing better measures of state and EPA environmental performance. These measures are being tested and refined by joint EPA/state workgroups. These groups plan to recommend refinements to the measures in time for use in fiscal year 2000.

In addition to the work of these joint groups, notable examples of progress in developing new measures can be found in New Jersey's emphasis on new environmental measures; Florida's efforts to measure environmental compliance as contained in the "Secretary's Quarterly Performance Report" from the Department of Environmental Protection; and the EPA Office of Enforcement and Compliance Assurance's (OECA) "Final Report of the National Performance Measures Strategy," issued in January 1998. OECA received extensive involvement and input from stakeholder groups representing a wide range of interests in developing the report. These different projects are producing alternative measures and approaches which are being piloted in several places across the nation for possible future use on a national level.

DRINKING WATER REGULATIONS

Question. How does EPA respond to concerns expressed by the water industry that (1) epidemiological studies and other scientific research will not be completed in time to base potentially expensive standards on good science and (2) the agency will proceed to issue the regulations and meet the statutory deadlines despite the lack of sufficient data?

Answer: The Agency is aware and has discussed with its stakeholders that as provisions with longer-term deadlines in the 1996 amendments to the Safe Drinking Water Act get underway, there may be a strain on the research and risk analysis capacities to address the science and data needed for the potential regulation of newly identified drinking water contaminants. The EPA research, risk and regulatory communities and their principal stakeholders are in agreement that current level of effort is satisfactory to meet the SDWA requirements for the contaminants identified in the 1996 amendments, e.g., microbial/disinfection byproducts rule cluster, arsenic, radon, radonnuclides. After conducting a strategic program assessment on long-term drinking water activities and needs, however, work on any of the contaminants listed on the Contaminant Candidate List (CCL), issued as mandated on February 6, 1998; activities to revisit and revise all existing National Primary Drinking Water Regulations by 2002; and, new rule implementation present a challenge.

In addition to identifying the next round of contaminants for potential regulation, the CCL also identified priorities for research and occurrence data collection. This screening process allows EPA and stakeholder to focus research activities on a manageable group of priority contaminants for which there is currently inadequate information upon which to base sound risk management decisions. Research on these contaminants will allow them to be the principal focus of the "regulation determination" portion of the next CCL required by 2003. The research needed includes health effects (i.e., sensitive population considerations), exposure, analytical methods and treatment.

EPA is examining a variety of options to ensure that drinking water regulations will continue to be developed upon a base of good science and data. Internal discussions between the Office of Water and the Office of Research and Development are held regularly to develop a research plan that maximizes Agency resources (staff and dollars) on drinking water issues. Moreover, the National Drinking Water Advisory Council has been briefed on this concern and will provide advice to the Agency on the most effective way to address this problem.

CWAP: RELIABILITY OF DATA

Question. EPA's Clean Water Action Plan proposes additional spending in fiscal year 1999 of $568 million, Federal Government-wide, to augment water quality programs. About $145 million of that amount would be targeted for EPA programs.

In justifying the additional expenditure, EPA officials often cite its data showing that almost 40 percent of our nation's waters are still impaired. Yet many have criticized the reliability of these data. Do you feel they adequately characterize the problem and therefore help to justify the additional expenditure?

Answer: To draw conclusions about the Nation's water quality, EPA uses "The National Water Quality Inventory: 1996 Report to Congress" (Report) required under section 305(b) of the Clean Water Act. This Report is based on data collected and evaluated by states, tribes, and other jurisdictions during 1994 and 1995, then submitted to EPA.

Uncertainties in the data arise primarily because jurisdictions use different water quality criteria and survey methods to rate their water quality. The jurisdictions also take different approaches to designating how their waterbodies are most appropriately to be used—such as for swimming, drinking, or fishing. Finally, the reporting jurisdictions have not evaluated all of their waterbodies, but only a sampling of their rivers, lakes, and estuaries.

Based on the data in the Report, EPA has made its best judgment that about 40 percent of the surveyed rivers, lakes and estuaries are too polluted for basic uses such as swimming, drinking, or fishing.

EPA believes that the data does adequately characterize the Nation's water quality, but also that additional and more consistent information is needed. This type of information and evaluation would be made possible under the Clean Water Action Plan (CWAP) and is highly justified given the broad scope of the effort and the number of jurisdictions involved. Under CWAP, EPA, USDA, USGS, NOAA, and other partner agencies will collaborate with states, tribes, and local governments to more uniformly assess water quality and other natural resource goals, develop watershed

restoration action strategies, prevent watershed pollution, and provide grants to local organizations to promote leadership in restoring and protecting watersheds.

A key component of the CWAP is to ensure that Federal monitoring resources are used to support areas of greatest concern, including watershed characterization. The Plan calls for Federal agencies, led by USGS, to work with states and tribes to improve monitoring and assessment of water quality, focusing on nutrients and related pollutants.

The additional funding provided under CWAP will significantly improve our assessment of the Nation's water quality, and will facilitate a combined Federal, state, and local effort to improve water quality and our watersheds on a national level.

CWAP: MAJOR PROGRAMS ALREADY IN PLACE

Question. Before deciding on such a substantial increase in our commitment to dealing with the problem, doesn't it make sense to take stock of major programs already in place, such as USDA's Conservation Reserve Program, to address water quality programs?

Answer. It makes very good sense to take stock of programs already in place, along with the extent and severity of remaining water quality problems, in identifying the level of Federal funding needed. This was an important part of the process that led to the Clean Water Action Plan (CWAP). In recognition of the significant contribution that farm programs such as the Conservation Reserve Program make to water quality, USDA Secretary Glickman co-led the effort to develop the Plan with EPA Administrator Browner. In addition, eight other agencies with programs that affect water quality participated in developing the Plan, ensuring that the full extent of existing water quality efforts were considered.

Despite the significant contributions to water quality that Federal programs and others have made, the waters in many communities in the U.S. do not meet clean water or other natural resource goals. Unless additional efforts are made, including additional funding, many of these waters will continue to be impaired for the foreseeable future. There are two challenges before us, and each requires a significant investment of resources. The first is addressing the continuing effects of past practices. Excessive sedimentation has resulted from inappropriate land management. Over half of the wetlands originally found in the continental U.S. have been destroyed. Runoff from abandoned mines pollutes our waters. Our second challenge is to address emerging problems in our waters. Increasing development along our coasts is adding more stresses to our estuaries and the rivers that feed them. Changes in the nature of the livestock industry in recent decades require additional steps to manage wastes from animal feeding operations. Many kinds of hydrologic modifications are altering aquatic habitat. One consequence of the emerging stressors is increased risks from waterborne organisms such as cryptosporidium and pfiesteria. Other effects are algal blooms, fish kills, dead zones and a troubling number of freshwater fish species listed as threatened or endangered.

The Conservation Reserve Program, like the Wetlands Reserve Program, has a maximum number of acres that can be enrolled. The President's budget request is designed to provide funds for those programs that are best suited to address the most significant problems in priority watersheds. By directing most funds to States, Tribes and landowners, changes that improve water quality and aquatic habitat will be accomplished on-the-ground in ways that are tailored to solve specific problems and achieve the most environmental benefits for the funds invested.

Question. Do you have a handle on how much of a resource commitment the Federal Government is already making to address these issues?

Answer: In the programs for which increases are requested, the base funding in fiscal year 1998 is $1.6 billion, and the request would raise that to $2.2 billion in fiscal year 1999 (includes discretionary and mandatory funds). While the total fiscal year 1998 investment to address these kinds of issues is unavailable, other significant programs include the Conservation Reserve Program, funded at $1.8 billion, the Wetlands Reserve Program at $236 million, and the Land and Water Conservation Fund at $270 million in fiscal year 1998. In addition, some States are using some of the Clean Water State Revolving Fund, funded at a level of $1.35 billion in fiscal year 1998, to address polluted runoff and degraded aquatic habitat.

CWAP: NON-POINT SOURCE CONTROLS

Question. We understand that water quality benefits from nonpoint source controls can take several years or more, and be difficult to definitively measure—a difficult situation in a world where most want to see immediate results for their invested dollar. How do you plan to measure the effectiveness of these activities so you can reassure the public that results will be achieved, even if not immediately?

Answer: The environmental benefits from implementation of nonpoint source control measures and practices can be measured in many ways at different points in the pollutant delivery process, as well as at different geographic scales. EPA has taken several steps within this broad range of options to demonstrate that measurable water quality benefits will accrue from improved nonpoint source controls and other methods of water quality and watershed improvement.

Under the Government Performance and Results Act (GPRA), EPA has set a national objective to reduce, by 2005, the pollutant discharges from key point sources and nonpoint source runoff by at least 20 percent from 1992 levels. EPA is entering into an interagency agreement with the U.S. Geological Survey (USGS) to measure progress in achieving these objectives with stream data and a method that USGS has developed to relate measured loads of total phosphorus and total nitrogen in streams to point and nonpoint sources. In addition, EPA will use the U.S. Department of Agriculture's National Resources Inventory data to track progress in achieving the GPRA sub-objective of reducing erosion from cropland, used as an indicator of success in controlling sediment delivery to surface waters, by 20 percent from 1992 levels.

At the State and watershed levels, all nonpoint source projects funded with Clean Water Act section 319 funds are required to include a monitoring plan that will demonstrate the effectiveness of the projects. These monitoring plans encompass a range of environmental indicators including water chemistry, fish, macroinvertebrates, physical conditions, and aquatic habitat. In addition, the twenty-two watershed projects that participate in EPA's section 319 National Monitoring Program will provide detailed information regarding the link between nonpoint source controls and water quality. A few of these projects are beginning to show measured water quality improvements. Source-based estimates of runoff reductions are also used by States and watershed managers to indicate pollutant load reductions.

Other elements in EPA's strategy to achieve and document water quality improvement include completion of a modernized water quality data storage and retrieval system (STORET), revised regulations on the issuance of Total Maximum Daily Loads (TMDL's), receipt of revised lists of impaired waters from states, and improved and more consistent water quality monitoring and assessment across state, tribal, and local boundaries. The information we receive from this work should enable EPA to present an accurate picture of water quality and tie some of that improvement to reduced pollution form nonpoint sources.

CWAP: ROLE OF EPA AND OTHER AGENCIES

Question. Could you briefly describe the roles of EPA and other agencies in carrying out the Clean Water Action Plan and how these activities will be coordinated?

Answer: On February 19, 1998, the President released the Clean Water Action Plan (CWAP) that had been developed by a group of ten Federal agencies at the direction of the Vice President. This group consisted of the Departments of Agriculture, Commerce, Defense, Interior, Energy, Justice, Transportation, the Tennessee Valley Authority, the Council on Environmental Quality and the Environmental Protection Agency. An Assistant Secretary/Administrator level group from these agencies continues to meet regularly to guide implementation, and members of that group have traveled to seven cities around the U.S. to discuss implementation with Federal, State, tribal and local officials, and with stakeholders. In addition, an interagency steering committee, consisting of representatives from USDA, DOI, DOC/NOAA, the Army, and EPA, has been established to coordinate the activities of the Federal agencies to carry-out the 111 key actions outlined in the Plan. Nine interagency action teams have been organized to assist the steering committee by tracking groups of key actions.

Action teams are charged with developing more detailed implementation plans, milestones, and time frames and for coordinating with the agency personnel who will be engaged in completing the tasks. The plan outlines in detail which agencies are to participate in accomplishing specific key actions. The action teams, where necessary, will facilitate clarifying those roles and reporting on progress as key milestones are met. This structure is intended to facilitate coordination among the various Federal agencies and is not intended to replace or duplicate existing organizational structures or chains of command.

At the regional level, Federal agencies are creating new interagency coordinating mechanisms, or adapting existing ones, to ensure that interagency cooperation occurs in the field as well as in Headquarters. Discussions are also underway with State, Tribal and local officials to determine how best to ensure that we work effectively across levels of government as well as across Federal agencies in putting the Clean Water Action Plan into effect.

Successful implementation of the Plan will require the involvement of many people—and communication will be critical to ensure that we coordinate effectively. A multi-agency Federal communications plan has been drafted to ensure this occurs, using a variety of approaches including web sites, satellite video-conferencing, public events, written materials, and a speakers' bureau.

RCRA: CORRECTIVE ACTION PROGRAM

Question. What is EPA's strategy for correcting this significant lack of progress in the RCRA Corrective Action program?

Answer: EPA is implementing a number of ambitious activities aimed at reforming the RCRA Corrective Action Program. The Agency's objectives are to:

1. Promote faster cleanups by focusing the program on environmental results, not process, with emphasis on prompt controls at high priority facilities;
2. Enhance the role of state partners;
3. Promote innovative yet practical approaches to improve the pace and efficiency of investigation and cleanup actions; and
4. Enhance public involvement and boost community participation in the process.

Some of the key activities underway to achieve these objectives are:

1. The development of new national corrective action performance standards under the Subpart S initiative which emphasize results, not process;
2. Finalization of the HWIR-Media rule, which creates a new type of permit that will be faster and easier to obtain than traditional RCRA permits, and will not require facility-wide corrective action, and also provides for a new kind of unit called a staging pile that allows more flexibility for the storage of remediation waste;
3. Finalization of the post-closure rule, which provides for flexibility by removing the requirement to obtain a permit for the post-closure period, and allowing the use of other available authorities such as corrective action to address post-closure needs; and
4. The development and delivery to the EPA regional offices and states of a major new corrective action training course, which focuses on key principles and approaches to cleanup that have accelerated schedules, improved efficiency and focused implementation more on achieving protective results rather than following a prescriptive process.
5. Heightened emphasis through the Annual RCRA National Meeting and through frequent visits with the regional and state programs as vehicles for stressing the importance of using the flexibility in the corrective action program. Flexibility among implementation options was outlined in the May 1996 Advanced Notice of Proposed Rulemaking for Subpart S, and reinforced in a memorandum from Elliott Laws and Steven Herman to the regional offices in January 1997.

RCRA: DEFERRAL OF SUPERFUND SITES TO RCRA

Question. Given the lack of progress in the RCRA Corrective Action program, why has the agency taken the position to defer some Superfund sites to this program, especially given the larger amount of resources available to the Superfund program?

Answer. The 1984 amendments to RCRA established corrective action requirements for treatment, storage, and disposal facilities (TSD's). Consequently, EPA has overlapping statutory authorities under RCRA and CERCLA for those facilities. EPA decided to use the regulatory program under RCRA as the program of first resort for that particular subset of the facilities regulated under RCRA. This reduces the duplication of resources that would inevitably occur if the Agency were to act concurrently under both RCRA and Superfund programs. The Agency does, however, reserve the authority to use CERCLA to address RCRA facilities where the owners/operators are unwilling to undertake corrective action or unable to pay for corrective action.

RCRA is an ongoing regulatory program designed for facilities actively managing hazardous wastes, and the Agency concluded that this regulatory structure was more appropriate than Superfund for operating TSD's with cleanup obligations. RCRA provides administrative efficiency by allowing cleanup requirements to be merged into the facility's permit. By using RCRA first, EPA can leverage State resources in States that have authorized RCRA corrective action programs. Moreover, there is a backlog of Superfund sites awaiting funding for remedial actions, underscoring the need to look first to the RCRA program at sites where corrective action authorities are applicable.

The two programs will continue to work together to ensure that all available resources are brought to bear in cleaning up sites. EPA is currently reviewing the sites deferred from Superfund to RCRA to ensure that the policy has been correctly applied and that high priority sites are being appropriately addressed under RCRA.

RCRA: STATUS OF EFFORTS FOR A NEW SUBPART S REGULATION

Question. What is the status of EPA's efforts to issue a new Subpart S regulation that provides for more flexible approaches to Corrective Action cleanups?

If you are not moving forward with the regulation, how are you ensuring that individual cleanup managers in regions and authorized states (1) consistently understand any options they have to get cleanups done faster and cheaper and streamline the cumbersome and lengthy corrective Action process, and (2) are appropriately using these options so that industry does not experience regional differences in the extent and level of cleanups they have to achieve at their facilities?

Answer. EPA is currently moving towards finalization of corrective action regulations and/or guidance that would form a performance-based framework for cleanups under RCRA corrective action. Performance standards would de-emphasize process and form a national framework for corrective action that would accommodate varied approaches towards attaining national goals. The standards would be useful when states use non-RCRA programs to implement corrective action. Performance-based regulations were widely supported by commentors on the 1996 Advance Notice of Proposed Rulemaking in which EPA sought comment on this approach.

To issue regulations expeditiously, the performance standard framework would be finalized directly from the 1996 ANPR and the 1990 Subpart S proposal, rather than going through reproposal. EPA is committed to active outreach in the development of final regulations, and is planning to issue a Notice of Data Availability (NODA) this fall which would include, in addition to data related to its economic analysis, EPA's view of what performance based regulations would entail. Prior to issuing this NODA, EPA is seeking additional input from state regulators.

RCRA: ALLOCATION OF RESOURCES

Question. To what extent has EPA assessed how it has allocated resources across hazardous waste cleanup programs, especially among regions, and whether there is an opportunity to better reallocate the resources to achieve more progress in the Corrective Action program?

Answer. The Agency recognizes the high level of risk reduction associated with the Corrective Action program and has responded by devoting nearly 41 percent of all regional FTE and 42 percent of all regional RCRA program dollars to the Corrective Action program. The Agency created a workload model to distribute Corrective Action resources among the regions based on the number of Corrective Action sites within each region. Corrective Action, for the purposes of the workload model, is defined as all activities associated with detecting and taking appropriate follow-up actions for hazardous waste releases from RCRA Facilities. Sixty percent of Corrective Action resources were allocated to "pipeline" activities that were defined as RCRA Facility Investigations that have been formally imposed. The balance of Corrective Action resources for "new activities" (40 percent) were distributed over Treatment Storage and Disposal Facilities that either had not had a RCRA Facility Assessment or had been assessed but were in need of a RCRA Facility Investigation. Treatment Storage and Disposal Facilities that had been assessed but were determined not to need an investigation were not counted in the workload model for funding distribution.

The percentage distributions are as follows:

	Percentage Share
Region 1	6.4
Region 2	11
Region 3	9
Region 4	14.1
Region 5	17.7
Region 6	14.3
Region 7	7.2
Region 8	4.3
Region 9	10.9
Region 10	5.1

Regions are currently assessing the above funding distribution to bring resources more closely in line with the recently established GPRA performance goals. This is to be done so as to facilitate achieving the goal that 95 percent of high priority RCRA facilities will have human exposure to toxins controlled and 70 percent of high priority RCRA facilities will have toxic releases to groundwater releases controlled by 2005. This goal focuses resources on the use of interim measures, rather than full clean-up, to accelerate progress in achieving risk reduction by protecting

people and the environment from exposure to the dangerous contaminants at these sites.

RCRA: INCREASE ENFORCEMENT ACTIONS

Question. Given industry's reluctance to initiate cleanups, what plans does EPA have to increase enforcement actions at the high priority facilities to achieve more progress or to work through state voluntary cleanup programs to provide industry more incentives to initiate cleanups?

Answer. EPA and the states are using a variety of approaches, including orders and permits, to ensure appropriate corrective action at RCRA facilities. Through GPRA, EPA has set two performance targets for high priority RCRA corrective action facilities by 2005. These two targets are to control human exposure at 95 percent of these facilities and to control releases of contaminated ground water at 70 percent. EPA promotes expedited cleanup that is consistent with the RCRA corrective action performance goals. Industry owner/operators may address cleanup independently or through voluntary cleanup programs ahead of schedule of permit or order requirements.

CCTI: GREENHOUSE GAS RELEASES

Question. What analysis did the administration perform to determine that $6.3 billion is needed to implement climate change activities and how to allocate these funds to ensure that they are used most effectively to decrease greenhouse gas releases?

Answer. There was a coordinated effort within the Administration among several agencies to determine the appropriate resources to invest in activities to stimulate the development and deployment of energy efficient and low carbon technologies. The starting point for these efforts was a review of the costs and benefits of existing programs which had been developed last year through an interagency effort chaired by the Council on Environmental Quality. The results of this analysis were published in the "U.S. Climate Action Report—1997." This was followed with a sector-by-sector review of additional opportunities for carbon reductions, selecting strategic opportunities that cost-effectively can advance the development and deployment of energy efficient and low-carbon technologies across the economy. A recent study, by five Department of Energy laboratories of energy technologies that reduce carbon emissions, supported the sector-by-sector review. The Administration also considered the extensive recommendations of the President's Committee of Advisors on Science and Technology (PCAST) for new investments in energy research and development. These recommendations are contained in the November 1997 report "Federal Energy Research and Development for the Challenges of the 21st Century." The Treasury Department and several other Federal agencies worked together to evaluate the costs and benefits of potential tax incentives.

CCTI: EFFECTIVENESS OF PROGRAMS

Question. How is the administration planning to monitor the effectiveness of its programs to ensure they are functioning effectively?

Answer. The Administration regularly evaluates the effectiveness of its climate programs through interagency evaluations. The first such interagency evaluation, chaired by the White House Council on Environmental Quality, examined the performance of programs included in the Climate Change Action Plan. The results were published in the "U.S. Climate Action Report—1997" as part of the United States Submission to the Framework Convention on Climate Change. There were several opportunities for public comment. The Administration will continue monitoring the effectiveness of its programs through the programs' performance measures established under the Government Performance and Results Act. Several performance measures for EPA's climate change programs were included in our 1999 Annual Plan provided to the committee.

CLIMATE CHANGE: ADJUSTMENTS TO PROGRAMS FOR GREENHOUSE GAS EMISSIONS

Question. What plans are there for making any necessary adjustments to the programs to ensure that U.S. greenhouse gas emissions decrease to the levels required by the Kyoto Protocol?

Answer. The Agency will continue to adjust programs in order to maximize the benefits that the programs achieve. The Agency has made several adjustments to its climate partnerships since their inception in 1993 in order to maximize their effectiveness. In addition, the Administration conducts periodic interagency reviews of program accomplishments and potential, with the last being completed in 1997 (see

response to previous question). This process includes a review of the overall success of the programs and an evaluation of opportunities to achieve additional reductions as necessary.

It must be noted that the partnership programs are not themselves designed to implement the Kyoto Protocol. EPA's objective is based on voluntary, profitable opportunities to reduce greenhouse gas emissions while strengthening the economy. This objective is consistent with general international obligations under the 1992 United Nations Framework Convention on Climate Change (FCCC), which the Senate ratified, to work toward reducing greenhouse gas emissions. Regardless of whether or not the Kyoto Protocol is ratified, these programs are a sensible, cost-effective step to begin to reduce greenhouse gas emissions, and are common-sense measures to improve energy efficiency in our homes, offices, and businesses.

CLIMATE CHANGE: COST/BENEFITS OF VOLUNTARY PROGRAMS

Question. What are the estimated costs and benefits (emission reductions) of the voluntary programs for which EPA is seeking funding in fiscal year 1999? To what extent have the estimated emission reductions been adjusted to take into account factors other than EPA's programs that may have encouraged companies to reduce their emissions?

Answer. The following table provides the fiscal year 1999 funding request for EPA's voluntary climate programs.

Fiscal Year 1999 President's Budget Request

EPM	$158,502.1
Industry Initiatives	51,600.0
Buildings	78,100.0
Carbon Removal	3,400.0
Transportation	12,002.1
Engaging Developing Countries	8,400.0
State and Local Outreach	5,000.0
S&T	46,905.5
Transportation	46,905.5
Total Voluntary Programs	205,407.6

With this funding, EPA estimates that the following benefits will accrue in 1999:

—Greenhouse gas reductions of 40 million tons of carbon (mmtce)

—90,000 tons of nitrogen oxide (NO_X) reductions, along with reductions in other air pollutants (such as PM and mercury) and water pollution

—Savings of over 45 billion kilowatt hours in U.S. energy consumption, providing $3 billion in energy bill savings to consumers and businesses;

These benefits will expand greatly beyond 1999. The 1999 funding will be used to form new partnerships that will deliver increased benefits for years to come. Funding will also be used to develop a new generation of efficient cars and trucks that can make everyday transportation less costly and less polluting.

EPA's benefits estimates are not overstated and are based on careful and thorough tracking of partner progress in existing activities and are generally conservative. A 1997 audit by EPA's Office of the Inspector General concluded that the climate programs that were examined "used good management practices" and "effectively estimated the impact their activities had on reducing risks to health and the environment * * *." The report went on to explain the methodology of these programs as an example to the rest of the Agency, stating "future voluntary programs could benefit from using similar measurement techniques." ["Risk Reduction Through Voluntary Programs," March 19, 1997].

CLIMATE CHANGE: TIMETABLE TO DEVELOP "CREDITS FOR EARLY ACTIONS"

Question. What is the timetable for developing a plan to provide "credits for early actions"? What types of credits are being considered? How will "early actions" be defined?

Answer. The Administration has not established a timetable for developing an early credit plan. The President's 3-stage plan, announced on October 22, 1997, includes giving appropriate credit for early action. A number of proposals are being circulated by industry groups and other organizations with suggestions of how to provide this credit. The Administration intends to review these and other proposals as it consults with industry over the coming months on ways to voluntarily reduce greenhouse gas emissions in the near term.

CLIMATE CHANGE: STAGE ONE ACTION STEPS, COSTS, BENEFITS AND IMPEDIMENTS

Question. Is EPA responsible for any of the Stage One action steps in addition to those listed above? If so, please specify the action steps, estimated costs and benefits, and impediments to implementation (such as the need for legislation).

Answer. EPA's responsibilities under Stage One of the President's Three-Stage plan include continuing implementation of its voluntary programs, conducting research and development to support the Partnership for a New Generation of Vehicles, and participating in consultations and discussions with industry on issues such as the design of an early credit program. These are all addressed in the previous questions.

SF: SITE CLEANUP GOAL BY FISCAL YEAR 2001

Question. How can EPA be assured of meeting its 900 site cleanup goal by the end of 2001 when EPA must obtain PRP commitments for 70 percent of the work to be performed?

Answer. The Superfund program is committed to pursuing an Enforcement First strategy to ensure that parties responsible for contamination at Superfund sites conduct and pay for the cost of cleanup. The 70 percent PRP work figure is based on historical trends. With budget constraints and the project funding queue, this ratio may vary over the next few years. Aside from these constraints, recent trends indicate approximately 70 percent of new remedial work will continue to be initiated by PRP's.

SF: SITE IDENTIFICATION CLEAN UP DURING FISCAL YEAR 1999 AND ESTIMATED COSTS

Question. Has EPA specifically identified the sites that will be cleaned up during fiscal year 1999 and the estimated costs of cleaning up each site?

Answer. The Agency has a candidate list of sites that will be cleaned up during fiscal year 1999 with cost estimate; however, site schedules and circumstances change making it difficult to identify a specific list of sites. Although, there are specific targets the Agency plans to meet. The President's fiscal year 1999 Budget Request states a target of 136 cleanups during that fiscal year. We will be tracking the candidate list throughout fiscal year 1999.

MEXICO BORDER: JUSTIFICATIONS FOR BORDER WATER PROJECTS

Question. Does EPA's Office of Wastewater or the EPA Inspector General plan to perform a comprehensive review of the project justifications for border water projects to ensure that the justifications are fully consistent with EPA Office of Water and Border Environment Cooperation Commission project criteria?

Answer. There is a comprehensive review process in place. EPA currently receives from the Border Environment Cooperation Commission (BECC) a copy of each project application and a detailed discussion of whether and how it meets the BECC criteria. EPA also currently receives from the North American Development Bank a discussion of whether and how the project meets EPA funding criteria. Both are used by EPA to determine whether to approve the use of EPA funding.

MEXICO BORDER: INTEGRATED DATABASE FOR COLONIAS PROGRAM

Question. Does EPA's Office of Water plan to develop and use for program evaluation purposes an integrated database for completed and ongoing Colonias Program border water infrastructure projects run under the Colonias and Border Facilities Construction Program?

Answer. Databases for tracking colonia projects already exist. An extensive database has been established for projects funded under the colonia program in the state of Texas. The database is maintained by the Texas Water Development Board (TWDB) and is updated monthly. It includes a project-by-project summary of planning/construction status, population served, funding sources and commitment amounts, as well as other information. Regular meetings between EPA and the TWDB are held to review progress and discuss more detailed issues for individual projects. The New Mexico colonia program currently consists of only 13 projects, for which a summary spreadsheet is maintained by the New Mexico Environment Department (NMED), and quarterly progress reports are prepared. EPA holds meetings with NMED and makes site visits to track progress of individual projects. Colonia projects certified and funded as part of the general border facilities construction program will be tracked under a database which is currently under development by the Border Environment Cooperation Commission, in cooperation with EPA.

MEXICO BORDER: INSTALLATION AND HOOK-UP OF DRINKING WATER AND WASTEWATER SERVICES

Question. There are a number of financial and regulatory problems which complicate the installation and successful hookup of drinking water and wastewater services to unserved households in the U.S.-Mexico border region, including (1) household capital costs of improvements, (2) jurisdiction conflicts between state and local governments and water supply corporations, (3) inconsistent national, state, and local building code requirements associated with home improvements required for participation in the water projects, and (4) the lack of coordination between EPA, HUD, and USDA water infrastructure projects. How significant are these problems? What remedies have you used or planned to use to address these problems?

Answer. The problems identified above do not prevent the construction of the water and wastewater infrastructure in the colonias. These problems have been known for some time and positive efforts have been initiated and are being implemented to minimize their effects.

1. Household Capital Costs

The EPA colonia grants can be used to assist the completion of household connections. This type of assistance has been made a priority in colonia projects where the initial funding has successfully created the needed treatment and collection system. In addition, the Border Environment Infrastructure Fund (BEIF) can include household connections in the project financing structure. The BEIF is an EPA funded program administered by the North American Development Bank to assist in the design and construction of water and wastewater infrastructure in the U.S./Mexico border.

2. Jurisdiction Conflicts

State laws and requirements define the jurisdiction and authority for providing water and wastewater service to communities. In cases where there is overlap the state will mediate. While there have been some conflicts this is not a major issue. The state has provided a cooperative environment that has resulted in fair and equitable results to all parties without major delays to providing needed services to the colonias.

3. Inconsistent Housing Code Requirements

The requirement for a licensed plumber for indoor plumbing and household connections is the only code-related issue associated with EPA funds. This issue has been resolved on a case-by-case basis at the local level. Code requirements are specified at the state and local level, not by EPA.

4. EPA, HUD, USDA Coordination

It is recognized that there may have been issues regarding coordination among Federal agencies during the early stages of the colonias program. Over time, however, the involvement of several Federal agencies has been an asset, since an ongoing dialogue has resulted in a cooperative, shared approach to solving problems on a project-by-project basis. This has been established for several years through a Texas colonias group made up of Federal and state agencies involved with colonias water and wastewater infrastructure. This effort was initially begun by EPA, and has continued under the chairmanship of the Texas Water Development Board.

FOOD QUALITY: REVISE DRAFT FOOD SAFETY BROCHURE

Question. Does EPA plan to revise its current draft food safety brochure based on the extensive comments received? If yes, what revisions are planned? If no, why not?

Answer. Yes. EPA is currently revising the March 1996 draft based on all the comments received from our stakeholders. EPA conducted focus groups to ensure the brochure will answer the questions consumers are most interested in. EPA will also be consulting with the Food and Drug Administration and the U.S. Department of Agriculture to ensure the brochure is consistent with the Administration's focus to strengthen food safety.

The brochure will likely explain the importance of eating the recommended servings of fruits and vegetables, the possible risks from pesticides, and how consumers can obtain more information on pesticides and food safety. The brochure will be distributed to large retail grocery stores by August 1998 (the statutory deadline). EPA is also developing information consumers can access on the Agency's website (www.epa.gov).

Question. Is the current budget adequate to revise, print and distribute the brochure?

Answer. Yes.

FOOD QUALITY: APPROPRIATE APPROACH FOR REVISING FOOD SAFETY

Question. Recognizing that EPA may not meet the August 1998 requirement, is this still an appropriate approach?

Answer. Yes, the Agency thinks the general framework is still appropriate. At the same time, we are using information from stakeholder meetings and comments received to see how to best finalize and distribute the brochure.

ANNUAL PERFORMANCE PLAN: PERFORMANCE GOALS AND MEASURES IN ANNUAL PLAN

Question. How do the performance goals and measures in your annual performance plan reflect the need to ensure that we can assess EPA's performance on one level—that is, what improvements are directly attributable to EPA's actions—and, on another level, track the progress that the nation, as a whole, is making in protecting the environment?

Answer. The Agency has tried to accommodate the competing interests of measuring Agency-specific and national environmental performance by blending a mix of both kinds of performance goals and measures into the fiscal year 1999 Plan. In general, EPA has tried to cast its longer-term performance goals as a set of objectives that reflect environmental outcomes in its Strategic Plan. In some cases this effort has been constrained by the Agency's present ability to measure these environmental parameters (and the ability to link the results of Agency activities to discrete improvements in environmental quality). Taking into account this constraint, the Agency's basic premise is to evaluate its own performance in terms of the relative improvements in the nation's environmental quality. So to the extent feasible, the Agency wants to represent its performance by national trends in environmental quality. However, such measures will never be able to represent the totality of the Agency's obligations and performance characteristics. For example, the Agency's activities serve other societal values such as fiscal responsibility and efficient utilization of public monies. For this reason, Agency-specific performance measures will presumably always be included in its Annual Plans.

ANNUAL PERFORMANCE PLAN: ACTIVITIES AND ACTIONS RELEVANT TO OTHER STRATEGIC GOALS

Question. Under specific strategic goals covered in the performance plan, EPA lists as performance goals various activities and actions that appear to be relevant to other strategic goals. Is there an overlap that needs to be/has been recognized and, if so, how?

Please be as specific as possible in your response and also address the budget implications, i.e., how any overlap has been addressed concerning the budget amounts requested for the specific program activities involved and the resources being applied to achieve the respective goals.

Answer. Some degree of "cross-cutting" categorization is inevitable in trying to present an annual plan that simultaneously addresses the entirety of the Agency's activities and highlights the most significant achievements in a systematic manner. You will note that in Chapter 5 of the Strategic Plan (pp 80–88) the Agency highlighted six specific themes that cannot be adequately captured by the presented set of strategic goals and objectives. Likewise, as you note, activities among the 10 goals and 45 objectives sometimes overlap.

We have carefully aligned the Agency's resources in a strictly "linear" fashion according to the array of goals and objectives presented; we have painstakingly avoided "double counting." We do not believe any overlap in resource allocation exists.

Since the array of goals and objectives are cross-cutting, programs have to make decisions about how best to represent their activities. For instance, water program activities that relate to improving the public's understanding of local surface-water conditions or specific public water supply conditions are accounted for under Goal 7, even though the bulk of water program activities appear under Goal 2.

ANNUAL PERFORMANCE PLAN: EPA PARTNERSHIPS WITH STATES, TRIBES, LOCAL GOVERNMENTS, AND REGULATION PARTIES

Question. The September 1997 strategic plan identifies "key external factors" that influence EPA's ability to achieve its goals and objectives and over which the Agency notes that it has only partial control or little influence. Important among these are the partnerships EPA says it relies heavily on with states, tribes, local governments, and regulated parties. In many cases, it appears that the achievement of a program's goals would be highly dependent on such relationships. How does the per-

formance plan recognize this condition in establishing performance goals and measures?

Answer. Many of the Agency's core environmental protection activities are delegated to the states and tribes, and entail risk management measures performed by regulated entities. The Agency relies on the performance of these key parties to produce the gains in cleaner air, water and land that the Agency seeks for the nation. Consequently, among the performance goals and measures the Agency reports in its fiscal year 1999 Annual Plan are those activities which states and tribes perform and report to the Agency as part of state grant assistance (i.e., "core measures" and associated reporting requirements provided in the National Environmental Performance Partnership System). We intend to make clear (where possible) in our Annual Performance Reports the relative contributions to goals and objectives made by the Agency and other parties.

However, the preponderance of the goals and measures specified in the Plan are associated directly with Agency activities. In part, the selection of annual goals and measures is guided by the imperative to represent as closely as practicable the actual activities performed by EPA during the fiscal year. For practical purposes, this means the preponderance of reported performance targets relate to those activities for which the Agency is directly responsible. For example, the goals and performance indicators specified under Goal 9 ("Credible Deterrent and Greater Compliance") exclusively represent the planned activities, workload and accomplishments of EPA's compliance and enforcement staffs, and not the totality of nationwide compliance and enforcement activities.

QUESTIONS SUBMITTED BY SENATOR LEAHY

CLEAN AIR ACT: VOC STUDY

Question. The 1990 Amendments to the Clean Air Act included a requirement for studying the emissions of volatile organic compounds (VOC) from consumer and commercial products and depending on the results of the study, to regulate the VOC levels of these products but only if warranted. Specifically, Clean Air Act Section 183(e) mandates this study. What is the status of this mandated study as outlined in Section 183(e) of the 1990 Clean Air Act Amendments? I am interested in knowing the specific findings of the reactivity study, if it has been conducted. Please provide me with the detailed findings of the reactivity study as soon as possible. Furthermore, have you updated your reactivity findings as the science has developed?

Answer. EPA completed the study required by Section 183(e) of the Clean Air Act in March 1995, and considered reactivity in carrying out the study.

The Clean Air Act Amendments of 1990 require EPA to regulate VOC emissions from consumer and commercial products, after conducting a study to assist in prioritizing product categories for regulation. EPA issued the study in six volumes and summarized the results in a Report to Congress. Based on a broad survey of consumer and commercial product emissions, and a large body of scientific knowledge on reactivity and the role of VOC in ozone formation, EPA determined that consumer and commercial products have the potential to contribute to ozone nonattainment. The study also established criteria for prioritizing product categories for regulation.

In developing the criteria, EPA considered five different factors listed in the statute: the uses, benefits and demand for the product; the health or safety functions of the product; those products which emit highly reactive VOC into the air; relative cost-effectiveness of controls for products; and the availability of alternative products. Reactivity was but one of the factors that the statute required EPA to consider.

Also in March 1995, after ranking product categories based on the criteria, EPA issued the list of product categories to be regulated, as required by the Clean Air Act. EPA addressed reactivity both in developing the study and the ranking of products for regulation. This is discussed in more detail in two attachments: (1) testimony that Rob Brenner, Acting Deputy Assistant Administrator for Air and Radiation, recently provided to a Subcommittee of the House Science Committee, and (2) a document in question-and-answer format. Also attached is a one-page description of EPA efforts to advance understanding of reactivity issues.

It is important to note that States and the bulk of the affected industries strongly support EPA's efforts to issue national rules to reduce emissions of VOC from consumer products and architectural coatings. States are counting on these reductions to meet their Clean Air Act requirements. Without these emission reductions, states will have to regulate emissions from other local businesses to meet the Act's requirements. The majority in industry support these rules because, without them, they

have to incur the costs and burdens of complying with an growing patchwork of differing state requirements.

ANALYZING ELECTRIC POWER

Question. Analyzing Electric Power assumes that power plant units have a lifetime of 65 years, after which they will be retired. Why was age 65 chosen? When these plants were built, what lifetime was assumed in submissions to respective utility regulatory agencies? Is there a statutory or regulatory requirement that these facilities be retired at age 65, or is there any statutory or other requirement that these facilities reduce their environmental release? What is the share of emissions (SO_2, NO_X, mercury, PM2.5 (particularly sulfur-based fine particles), PM10 and CO_2) contributed by these powerplants to (a) the national inventory and (b) the burden on the states east of the Mississippi River? Please prepare an analysis indicating the emissions from these plants by state, and ambient levels of these pollutants listed in the previous sentence in out years, assuming a 30 year lifetime compared to the current 65 lifetime.

Answer. The 65-year life assumption applies only to medium and large steam-electric power plants that use fossil fuels. The assumption is based on engineering judgment on how much life extension actions can extend the life of these units. This assumption was similar to what other national energy models were using when the assumption was made by EPA in 1996.

There is not a statutory, or regulatory requirement for retirement at age 65. These units are subject to Clean Air Act regulations like any other existing electric generation unit.

We do not have an analysis available on the emissions from these facilities. The analysis you are requesting would require extensive time and resources to conduct. It is also unclear, whether you want to know today's emissions, expected future emissions, or both. Further, we only have good data on current emissions to do an analysis for SO_2, NO_X, and CO_2. We recommend that your staff contact Sam Napolitano of the Office of Atmospheric Programs at (202) 564–9751 to arrange a meeting to discuss your needs.

ELECTRIC POWER: EXCEEDING 30 YEAR LIFETIME

Question. Please provide the following information relative to plants that have exceeded the 30 year lifetime expectation: (a) by state, how many units would be affected; (b) by state, what is their current electrical production (e.g., megawatt hours generated); (c) by state, what are the most current estimates of total emissions from facilities of particulates, sulfur dioxide, nitrogen oxide, carbon dioxide, carbon monoxide, mercury, and other heavy metals; and (d) how many of these units are located in non-attainment areas for any of these pollutants.

Answer. We have not completed an analysis that answers this set of questions.

For current electric generation statistics, we recommend that you contact the Energy Information Administration (EIA). EIA has current electric generation statistics data that is readily available.

We can use our Acid Rain data base to provide current emissions of sulfur oxides, nitrogen oxides, and carbon dioxide, for units that reported this data to us under Title IV of the Clean Act. EPA's Acid Rain Division will provide you with this information by June 30, 1998. We are unable to answer your question for carbon monoxide, mercury, or other heavy metals.

Please note that EPA has not required plants to report the age of their generation units, and we rely on information from EIA on unit age.

TECHNOLOGIES

Question. There are several commercially available technologies for generating electricity from fossil fuels, but at substantially lower emissions rates. I would appreciate a description of each of these technologies based on data obtained from their manufacturers and reflecting actual operating histories. These include combined cycle systems, pressurized fluidized bed combustion, integrated gasification-combined cycle and fuel cells. Based on data obtained from operating experience, I would appreciate a projection of the aggregate emissions reductions and rate impacts of replacing utility units with these new technologies upon reaching the age of 30, with the new technologies operating at optimum heat rates and continuing to utilize the same fuels.

Answer. We assume that you are suggesting that new units produce less pollution than units over 30 years old. This is true for all types of fossil units because new units are more efficient in their fuel use and generally have combustion and post-combustion controls on them when they are installed. These points are made in

Analyzing Electric Power Generation under the CAAA, July 1996. Note that this report has been updated and can be obtained from the Clean Air Power Initiative web site. The address is: http://www.epa.gov/capi.

The analysis that you are requesting would require extensive time and resources to conduct, and could be done a number of different ways. We recommend that your staff contact Sam Napolitano of the Office of Atmospheric Programs at 202–564–9751 to arrange a meeting to discuss your needs.

STANDBY OR MOTH-BALLED FACILITIES

Question. Some analysts have expressed concern regarding the applicability of Title IV of the Clean Air Act Amendments of 1990 to facilities that were on standby or moth-balled status at the time of the enactment of the 1990 amendments. Please review those amendments and provide your view as to whether moth-balled or standby plants could be returned to operation without being subject to the "affected units" restraints contained in the 1990 amendments. Please also provide a list of these facilities, by state, and their projected emissions increases should they return to service, assuming a capacity factor of 65 percent.

Answer. For sulfur oxide control under Title IV of the CAAA, moth-balled and standby units would be "affected units." For NO_X control, under Title IV of the CAAA, they would not. We cannot provide you the emissions data that you want, because EPA only has a list of the standby, or mothballed units, and no other data that is needed for an assessment of their potential emissions.

QUESTIONS SUBMITTED BY SENATOR LAUTENBERG

CONDUCT SAMPLING ALONG THE NEW JERSEY COAST OF FLOATABLES

Question. I have been impressed by your commitment to improving the public's understanding of potential threats from bacteria and other water-borne pollutants in the ocean. A major part of this effort is the ability of EPA Region 2 to conduct sampling along the New Jersey coast of floatables and other hazards. However, your budget requests ($300,000) only enough funding for summer-time sampling. Can you justify why EPA is not seeking funding for year-round sampling?

Answer. The 1999 request of $300,000 for helicopter monitoring represents an increase of $60,000 over the amount provided for this activity in the 1998 appropriation. This funding is likely to be used during the summer months as a greater proportion of the population is susceptible at that time. The summer months represent the height of recreational activity on the coastal shores. Therefore, our requested level for the helicopter will support our highest-priority monitoring activities.

SUPERFUND ORPHAN SHARE REQUEST

Question. The President requested that $200 million be set aside for mandatory funding of orphan shares in Superfund settlements. Does EPA expect that the $200 million will be sufficient to meet all of the demands for orphan share funds made in Senator Smith's bill reported out of the Environment Committee a few weeks ago?

Answer. Preliminary estimates by EPA indicate that the $200 million requested by the President for fiscal year 1999 would fall significantly short of that needed to pay for "orphan share" as defined by Senator Smith's bill (S.8). The definition of "orphan share" proposed by the Administration differs from that in S.8 in several important ways. EPA defines "orphan share" as the share attributable to non-viable and defunct parties and its proportionate share of wastes which cannot be attributed to a specific party. In contrast, Senator Smith's definition of "orphan share" is much broader and it includes the shares of parties whose liability is otherwise limited or exempted by S.8. These include the shares associated with certain recycling transactions, exempted small businesses, and limitations to liability for municipalities and to generators and transporters of municipal solid waste.

In addition, the scope of EPA's proposal to pay "orphan share" would be limited to response work performed under future settlements and would not provide "orphan share" funding for existing settlements or work performed under unilateral administrative order (UAO's). By comparison, S.8 would expand "orphan share" funding to parties performing response work under both consent decrees and UAO's. Furthermore, S.8 would also reopen final consent decrees and UAO's to provide "orphan share" funding where post enactment costs exceed $1 million and the "orphan share" (as defined by S.8's broader definition) associated with those costs exceeds $500,000. Even where EPA has completed construction at a site, there may be significant long term operations and maintenance costs and groundwater cleanup costs

which could cause the S.8 threshold for reopening existing consent decrees and UAO's to be met.

SUPERFUND: BROWNFIELDS CLEANUP

Question. During the hearing, Senator Mikulski asked about progress on brownfields cleanup in Baltimore. Please explain the anticipated effects of the brownfields provisions in S.8, as it was reported out of the Environmental and Public Works Committee in March, on the pace and the quality of brownfields cleanup. In particular, please describe the nature of the changes that the bill could make to EPA's existing brownfields grants process.

Answer. Brownfields Provisions of S.8.

Title I: BROWNFIELDS REVITALIZATION as reported in S.8 requires the Administrator to establish a brownfields grant program for a brownfields site characterization and assessment and performance of response actions at brownfields facilities. The Administrator also is required to establish a State loan fund.

EPA's Current Program

Presently EPA operates a brownfields assessment demonstration grant program which awards grants to States, cities, counties, towns, or tribes to perform site assessments. To date, EPA has awarded 157 pilot assessment grant awards. These awards may be made in amounts up to $200,000. EPA also has awarded 24 grants in fiscal year 1997 to States, cities, counties, towns, or tribes to capitalize revolving funds so that these entities may in turn make loans ("RLF's") to public or private entities seeking to conduct cleanup. RLF capitalization grants are in amounts up to $350,000.

To assist in determining who should receive grant awards, EPA developed criteria based upon input from the National Environmental Justice Advisory Committee, whose members include a broad spectrum of stakeholders from industry, communities, environmental groups, and environmental justice organizations. EPA updates these criteria annually. Criteria for the award of site assessment grants include a demonstration of need, the extent of the local commitment to the proposed cleanup and redevelopment plans, implementation plans, and the potential for long-term benefits and sustainability which includes measures of success and national replicability. (See, "The Brownfields Economic Redevelopment Initiative—Proposal Guidelines for Brownfields Assessment Demonstration Pilot," EPA 500–F–97–156, October 1997). Criteria for the award of grants to capitalize revolving loan funds include an ability to manage a revolving loan fund; an applicant's need; the applicant's commitment to creative leveraging of EPA funds with public-private partnerships and in-kind services; a plan for ensuring that the cleanup and redevelopment meet environmental requirements; and a plan for recouping loaned dollars. ("The Brownfields Economic Redevelopment Initiative—Proposal Guidelines for Brownfields Cleanup Revolving Loan Fund," EPA500–F–97–147, April 1997).

Concerns with S.8

The brownfields program as reported by the Senate Environment and Public Works Committee in S.8 raises several concerns.

S.8 would significantly reduce the role of municipalities, unnecessarily increase the complexity of funding mechanisms, fail to ensure adequate resources for assessment of brownfields, allow for grants to private developers to clean up contamination on their own property.

1. S.8 would significantly limit the role of municipalities.

Under EPA's pilot program, and under prior versions of S.8, both local governments and States were eligible to receive capitalization grants for RLF programs. EPA encourages State-wide applications to be targeted toward specific communities. State-wide proposals that offer tangible cleanup and redevelopment success stories within the two-year time-frame of the awards will be considered; however, proposals that specify the target location of these activities are stronger proposals than those that do not. EPA is working to build strong partnerships with States. Thus, even when the Brownfields Assessment Demonstration Pilot recipient is a local government, EPA ensures that the STATE–EPA partnership efforts are supported. Local governmental entities must provide documented evidence of support from State and local environmental, economic development, and health agencies. In addition, the application must describe the legal authority—State or municipal Superfund or voluntary action/cleanup programs or other local, State, Territorial, or Tribal regulatory programs available for identifying, assessing, and remediating brownfields. EPA strongly encourages States and municipalities to work together to identify and

improve brownfields strategies. EPA also encourages municipalities to use existing tools such as State voluntary cleanup programs to enhance their Brownfields efforts.

S.8, as reported, provides that instead of municipalities receiving grants to make loans for brownfields activities, States will receive grants to make loans to municipalities. Municipalities may only receive grants after a State has made a determination not to act and even then only cities with populations over one million would be eligible recipients. This has the added impact of introducing another layer of authority and action that is unnecessary. EPA presently awards grants directly to States, municipalities, or Tribes. Most applications and most awards, however, have been made directly to municipalities, towns and communities. Indeed, a recent report "Recycling America's Land" prepared by the United States Conference of Mayors indicates that municipalities have aggressively seized brownfields assistance opportunities, whereas some States have shown little interest. The report gives states "mixed reviews in their support for brownfield activities," noting that "only 30 percent of the cities gave their states a 'very active' rating; 47 percent said their state was 'somewhat active'; and 23 percent cities said their state was 'inactive.'"

Of the 157 assessment demonstration grants awarded to date, 5 tribes, 7 states and Puerto Rico have been awarded grants.

2. S.8's 'State Loan Fund' provisions will supplant brownfields characterization and assessment grants.

The State loan fund provisions have the very serious potential to entirely supplant any brownfields characterization and assessment grant program. This would dilute the assistance that municipalities currently receive. Communities may well find themselves limited to a loan program as the only means of funding support for brownfields. (See above.)

A loan program differs considerably from a grant program. Loans must be repaid; grants are not repaid. For many communities this difference will define whether assessment, cleanup, reuse and redevelopment of brownfields sites take place, or whether abandoned, idled properties remain. Many communities will not view loans, despite the fact that grants are unavailable, as a viable tool for brownfields redevelopment.

In addition, by collapsing the two grant programs into one, without any assured set-aside for assessment grants, grants for cleanup could consume too many of the limited Federal dollars, and leave too little for site assessments, the critical first step in initiating brownfields cleanup and redevelopment activities. For a relatively small investment, an assessment grant potentially opens the door to redevelopment; often assessments reveal relatively light or no contamination, and redevelopment can proceed. On the other hand, if, based on conditions discovered through an assessment, a developer decides not to proceed, assessment costs may not be recouped. Providing grants for assessments creates a heightened incentive to conduct assessment, the necessary first step toward cleanup; and, since assessments are less expensive than cleanup, Federal money will go further if a minimum amount is reserved for assessments.

Many other problems with the State Loan Fund provisions are evident and include, but are not limited to, provisions that fail to clearly express what the loans would be for and fail to provide sufficient mechanisms for accountability or actually forgive loan debt. The Agency is also concerned about the provision which would create an allotment process to provide funds to states which does not take into account community needs.

With respect to the allocation formula, the brownfields loan fund will involve relatively small sums of money. A requirement to develop a formula introduces unnecessary complexity and potential delay into our ability to disburse brownfields assistance. Further, S.8 would require that the formula be updated at least every two years. The amount of money involved simply does not justify so resource intensive a funding mechanism, particularly considering the risk of delay. Moreover, there is no need for a formula. The combination of criteria and statutorily specified caps (contemplated in all previous legislative proposals) would work well to ensure fair distribution of scarce Federal dollars.

3. S.8 provides that private developers can receive cleanup grants.

Under S.8 private developers (who may also be potentially responsible parties) could receive cleanup grants. S.8 and prior drafts of S.8 would have provided only loans for cleanup. We appreciate that in some instances it may be appropriate to award a cleanup grant to a public entity, particularly where a brownfield may be returned to a use such as a public park, which will not produce revenue. However, it is bad policy to give money to private developers, who will presumably see returns on their investments and therefore can, and should, replenish the RLF's. EPA does

not support paying private investors to clean up their own properties. Moreover, and perhaps most importantly, we do not support violation of the polluter pays principle.

4. S.8 does not address the full range of activities presently conducted under the EPA Brownfields Initiative.

S.8 does not adequately address the breadth of EPA's current brownfields program. It omits technical support and funding for job training and workforce development.

5. S.8 brownfield grants for response actions at brownfields facilities are not a good use of Superfund.

Under the current EPA program for grants for site assessment pilots, or for grants to capitalize revolving loan funds for cleanup, neither cities nor EPA are undertaking direct site cleanup. S.8 contains a reference to performance of response actions (section 127(b) at brownfields facilities under the brownfields grant program, assuming that the State loan program does not otherwise supplant this section). EPA has always avoided funding direct site cleanup activities. Directly funding site cleanups through a grant mechanism would not result in the leveraging of these funds for additional cleanups.

Finally, to the extent that Fund monies are made available for response actions at any site, the Administration has consistently supported the principle that responsible parties should pay for cleanup costs and that such costs may be recoverable from responsible parties. The brownfields grants program for assessments and the capitalization of a revolving loan fund has always been operated in a manner consistent with the polluter pays principle and with the need to maximize leverage of Federal cleanup funds. We would not wish to see changes such as those envisioned by S.8 to this program.

Conclusion

S.8, as reported, would deny the very positive contribution EPA's Brownfields Economic Redevelopment Initiative. Unlike many of the environmental programs of the past, the initiative starts and ends at the local level. Cities decide what their problems are—and the bankers, lenders, investors, developers, and businesses of every stripe decide along with community residents how to solve them—EPA acts as the catalyst for change—not its manager. States play a role, too, but that role is as an equal partner. As the Brownfields program has developed, communities are telling us that it is vital that their voice not be filtered through an interpreter. Communities are the key to success and their voice must be heard clearly and directly.

The reported bill fundamentally changes the program thereby making brownfields efforts less effective and less efficient.

GAO REPORT CRITICAL OF PACE OF SUPERFUND CLEANUPS

Question. During the hearing, Senator Bond referenced a GAO report that was critical of the pace of Superfund cleanups, and the amount of dollars spent on lawyers, etc., rather than cleanups. Was the report accurate?

Answer. The report is not accurate. Both the methodology and the data used in the durations report portray a program that is slowing the pace of cleanups, when the opposite is true. Superfund cleanup time frames are decreasing, not increasing. The report does not reflect the realities of the current Superfund program. Recognition that Superfund is a fundamentally different program is paramount in any durations report and is currently lacking in the GAO report.

More than twice as many Superfund sites have had construction of the remedy completed in the past five years than in the first 12 years of the Superfund program combined. There were 149 of these "construction complete" National Priority List (NPL) sites as of September 30, 1992, and an additional 349 since then, for a total of 498 "construction completions" as of the end of fiscal year 1997. The bulk of the almost 1,400 superfund sites on the NPL can be cleaned up and are being cleaned up in a more timely fashion than in the past. Eighty percent of the sites on the NPL are under construction or are through the construction of the remedy. In the past five years, Superfund has clearly benefitted from dozens of major program reforms, contract management improvements, and the experiences of the first twelve years.

With regard to enforcement, the Agency seeks to maximize potentially responsible party involvement in site cleanup while emphasizing fairness in the settlement process. Activities supporting this goal include protecting small contributors to site contamination from costly litigation; these settlements are reported annually. Reductions in private party legal costs are not available to the Agency but are an accompanying benefit to the Agency's approach toward achieving site cleanup.

RCRA REMEDIATION WASTE REFORM

Question. I understand that the Administration recently released legislation specifications on RCRA Remediation Waste Reform? Do these differ from the approach in Senator Lott's draft legislation, circulated in January? Is legislative reform necessary? Will there be environmental benefits realized as a result of such reforms?

Answer. The Administration has long believed that appropriate targeted legislative changes are needed to address RCRA remediation wastes. These targeted changes include: application of the RCRA land disposal restrictions; minimum technology requirements; and permitting requirements to hazardous wastes generated and managed during cleanups (remediation waste). These changes would enhance environmental protection by encouraging aggressive remediation of contaminated sites where such remediation might not otherwise occur, might occur more slowly, or might occur in a way that emphasized less treatment and/or less permanent remedies. This conclusion was also made in the 1997 GAO report, "Hazardous Waste: Remediation Waste Requirements Can Increase the Time and Cost of Cleanups" U.S. General Accounting Office, GAO/RCED–98–4, October 1997.

The approach to remediation waste reform outlined in the Administration's legislative specifications differs from the approach taken in Senator Lott's draft legislation in a number of important ways including: (1) remediation wastes would remain in the RCRA subtitle C system, explicitly preserving existing RCRA enforcement and citizen suit provisions; (2) remediation waste would be subject to clear national standards for treatment and management, providing a certain amount of site-specific flexibility while maintaining a clear national baseline; (3) remediation waste management facilities would be subject to RCRA subtitle C permitting requirements which would be streamlined and more flexible than existing RCRA permits but would preserve the RCRA cradle to grave management system.

The environmental benefits that would result derive from reducing existing barriers to cleanup and thereby encouraging faster and additional cleanups. Cleaning up contaminated sites reduces risks to surrounding populations and ecosystems form exposure to contaminants. Ground-water contamination is a particular concern. The long-term impacts of this exposure vary depending on the type of contamination and the extent of exposure. Health effects can include cancer, nervous system effects (tremors, sensory abnormalities), effects on the endocrine and reproductive systems, high blood pressure, and memory and concentration problems. While the Agency is addressing the need to control exposure at the highest risk sites on a priority basis, faster and additional cleanups will provide greater protection and lower costs in the long run. The legislative specifications encourage state cleanups and independent and voluntary cleanups at low and medium priority sites, where otherwise cleanup might occur more slowly.

CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

Question. I am pleased to see that even with its tiny fiscal year 1998 budget of $4 million, the Chemical Safety and Hazard Investigation Board is off to a promising start. The Board, of course, will always need to draw from the expertise of EPA, OSHA, and other agencies. Is the Agency prepared to play a supporting role in the Board's investigations?

Answer. Yes. EPA recognizes the Chemical Safety Board has the lead in investigating the causes of chemical accidents, and we stand ready to support them. To this end, EPA and the Board are developing a Memorandum of Understanding to clarify each agency's role. The MOU will cover coordination of field activities as well as research, information sharing, accident databases, international activities and other areas of chemical safety.

We do not expect to complete this agreement for several months because the Board is obligated by law to establish MOU's with OSHA and NTSB first. In the meantime, we will support the Board in the following manner with the available resources:

Accident Investigators.—EPA has a small, but effective team of accident investigators. Each member is trained and has experience in accident investigation techniques and procedures. Investigators can perform a wide-range of site-related activities such as collecting/examining evidence, conducting interviews, analyzing documents and materials, and examining chemical processes.

Outside technical experts.—Through contracts, EPA has developed a network of technical experts who we can make available to the Board. These experts have special knowledge in such areas as specific chemical families and particular types of chemical accidents.

In-house experts.—EPA's program staff at Headquarters, in regional and field offices are available to perform specific technical, analytical and logistical support tasks the Board may require during an accident investigation.

It is also important to stress that a complementary accident prevention effort will ensure success in investigating and preventing chemical accidents. As EPA transitions to its new role, our priority will be to continue to build with our available resources a credible accident prevention program in cooperation with the Board, OSHA and other agencies. We will concentrate our activities on:

Respond to and Implement Board Recommendations.—As EPA's accident report activity winds down in early fiscal year 1999, we anticipate a significant growth in workload to respond to and take actions on the Board's recommendations to EPA resulting from their investigations and other responsibilities. This is a statutorily mandated responsibility for EPA under CAA § 112r(6)(I) which became effective with the board's funding, and reflects the experience of other agencies with independent investigatory boards; i.e., DOT and DOE.

We expect that several recommendations will be generated by accidents investigated by the Board and that these recommendations would likely be related to emergency planning, lists of substances subject to emergency planning or chemical accident prevention, and hazards analysis, process safety management, or emergency response under the Risk Management Program for prevention of chemical accidents. The recommendations might call for regulatory action, outreach or guidance to the regulated community or state and local levels.

Information Gathering.—We will gather information in the field to improve our understanding of how to prevent accidents, so we can respond faster and more effectively to Board recommendations. This activity will be a small but essential part of the program. It stems from our authorities for accident prevention under the CAA § 112(r) and CERCLA § 104 and information gathering under CAA § 114 and § 307 and CERCLA § 104. The work will be done in cooperation with other agencies such as the Board and OSHA and would complement their efforts (much as FAA and NTSB work together in the field).

Prevention Actions.—In addition to what EPA learns from the Chemical Safety Board, we will also act to prevent accidents, based upon what we learn in the field and from other sources (e.g., chemical safety audits, past accident investigations, research, compliance, enforcement, etc.). Our chemical safety responsibilities under CAA § 112r (1), (3), (7), (8), and (9) and CERCLA § 104 (b) and (e) require us to take actions to prevent accidents. A top priority will be to ensure that accident stakeholders are notified promptly so they take steps to minimize risk. As warranted, we will also develop guidance, modify existing rules and develop new ones, conduct and promote research, and communicate with industry, government and the public to enhance the application of safety measures.

TOXIC USE REPORTING

Question. For years, the Administration has publicly supported the concept of toxic chemical use reporting. Will the Administration support legislation to promote such reporting?

Answer. EPA continues to support chemical use reporting. EPA believes that chemical use data could improve the public's understanding of and ability to evaluate environmental issues that arise from the use of toxic materials at chemical facilities. Materials accounting information could improve the public's ability to evaluate facility source reduction and pollution prevention performance, focus emergency planning efforts related to the transportation of chemicals through communities, provide understanding on the amounts of chemicals going into products, and address worker safety and health issues.

In what is known as the Toxic Release Inventory (TRI) Phase 3 initiative, EPA is itself contemplating adding chemical use information to the TRI. (The concept of chemical use refers to "materials accounting" information: the amounts of chemicals entering a facility, the amounts manufactured or consumed on site, and the amounts leaving the facility in products and wastes). The Administration has placed a high priority on the TRI Phase 3 initiative. In an August 1995 memorandum to the EPA Administrator, President Clinton directed EPA to expedite TRI expansion "* * * including information on mass balance, materials accounting, or other chemical use data."

EPA has held public meetings on the TRI Phase 3 initiative and has issued an advance notice of proposed rulemaking (ANPR), receiving over 40,000 comments in response. EPA has reviewed the comments and issues, has reviewed two state programs (Massachusetts and New Jersey) that collect chemical use information, and

is continuing to evaluate a number of other issues, prior to making a decision on how best to proceed.

ATSDR BUDGET

Question. I am a big supporter of the Agency for Toxic Substances and Disease Registry (ATSDR), because of their good work at several New Jersey sites, including two in Toms River (Ciba Geigy and Union Carbide) and the Lipari Landfill. I notice that the Administration actually asked to cut $10 million from ATSDR's budget. How do you justify the requested budget cut?

Answer. Congressional add-ons from fiscal year 1998 were not sustained in the Agency's fiscal year 1999 Request. With a reduction of $10 million, ATSDR's funding level in fiscal year 1999 remains at the fiscal year 1998 President's Budget level of $64 million.

ATSDR is a valuable partner for EPA at priority Superfund sites—particularly at sites moving into the remedy selection/construction phase. ATSDR's assessments can, and are, used effectively to communicate the risks and threats being addressed by Superfund cleanups. However, our investments must focus on our efforts to actually remove the threats we know to exist at the Nation's worst sites. Not withstanding ATSDR's importance to safeguarding public health, EPA needs the additional funding to meet its construction completion goals which will prevent populations from exposure to hazardous waste.

PESTICIDES: REGISTRATION OF LOWER-RISK

Question. What steps are EPA taking to expedite registration of lower-risk replacement pesticides, especially for "minor use crops," such as cranberries?

Answer. EPA is committed to making every effort to ensure that farmers have the critical tools they need to grow our food. EPA wants all affected growers to be able to anticipate and plan for our actions. We do not want, and do not expect, any disruption in the availability of pest control tools without warning. We are balancing tolerance reassessment with the introduction of new products and pest control methods to help ensure that both chemical and non-chemical alternatives are available.

EPA has stepped up its efforts to provide better, safer choices of pesticides for farmers. In the past few years, EPA has created two new programs aimed at expediting reviews and ultimately market entry of lower risk products and safer substitutes. The Agency created the Biopesticides and Pollution Prevention Division. The types of products registered in this Division generally have a non-toxic mode of action. By combining the risk managers with the review scientists in one division, we have been able to streamline the entire review process. About half of post-Food Quality Protection Act (FQPA) new active ingredients have been for biopesticides.

The second program, known as the Reduced-Risk Pesticide Program, has been in place since 1994. Applications that come in under the Reduced-Risk Program are placed at the head of the review queue. To date, 17 new chemicals have been approved as reduced risk alternatives. This program clearly provides an incentive for companies to develop lower-risk products and safer substitute products. Among the 13 chemicals currently under review as part of this program, 5 new active ingredients are potentially significant substitutes for some organophosphate registered uses for which reviews should be completed before tolerance reassessment on organophosphate pesticides is completed. EPA has also proposed a draft policy to give expedited consideration to applications for reduced risk pesticides that may be alternatives to the organophosphates. As stated in the Vice President's April 8 memorandum on food safety, EPA is establishing an advisory process to ensure broad stakeholder involvement in the development and implementation of an approach to tolerance reassessment for organophosphate pesticides.

EPA is particularly concerned that options are available for minor crop growers. The Agency has put in place a priority system for minor uses which allows applications to be expedited, created a minor use team with an ombudsman within the pesticide program, and has broadened communication efforts with growers and trade associations concerned about minor use issues. In addition, we have published guidance on the minor use prioritization criteria and held a workshop on minor use registration.

In addition, EPA works with the U.S. Department of Agriculture (USDA) on a regular basis to ensure that the impact of its regulations and decisions on farmers is considered. EPA and USDA also have a Memorandum of Understanding to foster cooperative efforts to provide replacements for pesticides that are likely to be subject to cancellation or suspension by EPA, or are subject to voluntary cancellation based on risk or economic concerns.

FQPA: ORGANOPHOSPHATES

Question. EPA has indicated that it intends to reassess organophosphates under the Food Quality Protection Act (FQPA) to determine if they meet the new health standard under the Act. I understand that organophosphates can be toxic to the brain and central nervous system, yet few of them have been tested for their effects on developing brain and nervous system of infants and children. What steps is EPA taking to reevaluate their testing requirements to specifically reassess these chemicals for their developmental neurotoxicity?

Answer. In the past, EPA has utilized its data call-in authority to request developmental neurotoxicity studies where the potential for certain developmental effects existed. The need for more routine use of developmental neurotoxicity testing was one of the topics discussed at the March 1998 meeting of the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (SAP) and the Agency is reviewing the SAP's comments. The SAP did not reach consensus on a path the Agency should follow but urges the Agency to continue evaluation of the core tests required and evaluation of the design inherent in these required tests to optimize the likelihood of detection of developmental toxicity. In addition, EPA is currently revising its testing requirements for developmental neurotoxicity and expects to publish proposed guidelines in June 1998.

FQPA: ORGANOPHOSPHATES EXPOSURE

Question. While I understand that data on some sources of exposure to organophosphates are incomplete, does EPA currently have sufficient data to determine that there is reason for concern about exposure of the public to organo-phosphate pesticides?

Answer. EPA certainly believes there is reason to conduct a more detailed risk assessment of the organophosphate pesticides, which is currently being done. As you know, organophosphates are in the first group of pesticides to be reassessed under the stricter Food Quality Protection Act (FQPA) standard. EPA and the U.S. Department of Agriculture have formed an Advisory Committee (Tolerance Reassessment Advisory Committee—TRAC) to consult on the framework for organophosphate tolerance reassessment. Specifically, this group will discuss appropriate processes for making pesticide tolerance decisions, what documentation is needed, and how to ensure appropriate public participation and transparency. While this group will focus on organophosphates, it is hoped that their advice will help establish principles for tolerance reassessment of all pesticides.

FQPA: TOLERANCE REASSESSMENT PROCESS

Question. You mentioned at the hearing that EPA will be establishing an advisory committee to provide input on EPA's tolerance reassessment process. How will this advisory committee impact EPA's ability to meet its FQPA deadline to reevaluate ⅓ of all pesticide tolerances by August 1999?

Answer. The Tolerance Reassessment Advisory Committee (TRAC) was recently formed and held its first meeting on May 28–29. As mentioned previously, the Committee will focus on organophosphates in an attempt to assist EPA in developing a framework for making decisions during tolerance reassessment. This Committee will largely be providing advice on broad policy issues and is not a technical, scientific advisory group. The Agency's refined risk assessment for organophosphates will continue on a parallel track with the Advisory Committee's work. Once the risk assessment is completed, the Committee's recommendations will assist EPA in reassessing the tolerances by August 1999.

Question. How will the Agency meet this deadline?

Answer. At this point, EPA still anticipates completing its review of the organophosphates by August 1999. It is important to note, however, that the Agency is continuing to reassess tolerances for other pesticides and will have completed a number of these other reassessments by August 1999, thereby contributing to the ⅓ of tolerance reevaluations mandated by the Food Quality Protection Act (FQPA).

FQPA: PUBLIC HEALTH IMPLICATIONS

Question. Some in the agricultural and chemical industry have suggested that the Agency should not make assumptions about levels of exposure and not consider these other exposure sources until actual data are submitted by the chemical companies. What are the public health implications if EPA fails to consider other sources of exposure to pesticides when reassessing these chemicals? If EPA does not consider other exposure sources when data on those exposures are incomplete, can they

comply with the requirement of FQPA that pesticide tolerances take into account aggregate exposure?

Answer. EPA uses the best data available. Where data are incomplete, EPA may compensate by using an additional uncertainty factor or making a reasonable health-protective assumption. This has long been EPA's practice and the Food Quality Protection Act (FQPA) emphasizes the importance of uncertainty factors where data are incomplete. Where risk estimates are used, for instance in drinking water exposure, EPA relies on actual data supplemented with scientifically reviewed models and not on worst-case assumptions. Where detailed data, such as monitoring data, are not available, EPA uses screening procedures to identify pesticides that are unlikely to get into drinking water. This screening process allows the Agency to make timely decisions without requiring additional data from registrants that are not necessary to make a decision. If a pesticide does not pass this screen, EPA considers factors such as the nature of the health concern, overall risk, and the potential magnitude of drinking water contamination. The Scientific Advisory Panel and the International Life Sciences Institute is providing expert advice and review of our methods.

EPA feels this approach is appropriate, both to facilitate the registration of new, reduced-risk alternatives to conventional pesticides and to allow action on pesticides where available, reliable data indicate there is unacceptable risk.

FQPA: TEN-FOLD KIDS

Question. Just last week, several scientists and pediatric experts told Congress at a briefing that there were significant shortcomings in EPA's toxicological data with respect to the safety of pesticides for infants and children. In addition, a recent study by Rutgers University suggests that some home-use pesticides previously thought to dissipate may actually accumulate on the surface of children's toys for weeks after the initial application. How is EPA implementing the 10-fold kids' safety factor to account for these uncertainties with respect to exposure and toxicity?

Answer. The Food Quality Protection Act of 1996 (FQPA) provides important new protections for the Nation's consumers, with special emphasis on measures to ensure the protection of infants and children. For example, FQPA requires for the first time that EPA make an explicit determination that pesticide tolerances be set at levels that are safe for infants and children.

In January 1998, EPA submitted its approach to the FQPA safety factor to the Scientific Advisory Panel for review, including how the Agency is dealing with exposure and toxicity issues. This approach described how the Agency considers the completeness of the toxicity database, the type and severity of the effect observed, and the nature and quality of the available exposure data. The application of the FQPA safety factor is not a matter simply of uncertainty, but is also a way of assuring an extra measure of protection for infants and children in cases where special sensitivity or exposure for these subgroups is identified. The retention, reduction, or removal of the FQPA safety factor is based upon a weight-of-evidence evaluation of all applicable data and reflects sound scientific judgment and principles. An internal FQPA Safety Factor Committee consisting of toxicologists, exposure scientists, and risk managers recommends whether to retain, reduce, or remove the FQPA safety factor.

To allow for transparency in the Agency's approach, EPA has asked for advice on applying the FQPA safety factor from independent scientific experts and invited stakeholder consultation through the Scientific Advisory Panel (SAP) and the Pesticide Program Dialogue Committee (PPDC). The SAP is generally supportive of the new approach but identified the need for more clarity. The Agency will be sending a revised guidance on the FQPA safety factor to the SAP in July.

In addition, on February 25, 1998, EPA Administrator Carol Browner and Deputy Administrator Fred Hansen requested that the Office of Prevention, Pesticides, and Toxic Substances, the Office of Research and Development, and the Office of Children's Health Protection conduct an evaluation of the Agency's implementation efforts regarding the FQPA safety factor. An intra-Agency workgroup established in response to this request will soon release its initial report. The group is evaluating both the adequacy of the data used for making decisions about the additional factor and also the adequacy of procedures for consistency, transparency, and documentation.

CLEAN AIR ACT: PROPOSED NO_X EMISSIONS TRADING PROGRAM

Question. I commend the Administration for developing its "Comprehensive Electricity Competition Plan", but I am concerned about the impacts it might allow on air quality in the Northeast, as well as unfair economic advantages that would be

enjoyed by coal-fired units in the Midwest that were grand-fathered under the Clean Air Act.

Under the proposed NO_X emissions trading program, will the allowable emissions of air pollutants per kilowatt-hour be levelized between competing electricity?

Answer. The Administration's Comprehensive Electricity Competition Plan does not seek to eliminate existing differentials in emission standards for electricity generating units. However, the plan would clarify EPA's authority to implement a cap-and-trade mechanism to limit power plant emissions of nitrogen oxides (NO_X) in 22 eastern states and the District of Columbia.

CLEAN AIR ACT: MIDWESTERN COAL-FIRED UNITS

Question. Will Midwestern coal-fired units continue to enjoy the "environmental subsidy" of compliance with lower emission standards?

Answer. Under the Administration's electricity competition plan, all generating units would be subject to the same National Ambient Air Quality Standards as before. All units are already subject to the national requirements for SO_2. The generating units in the 22 eastern states would be required, under the proposed plan, to lower their NO_X emissions with the assistance of the cap-and-trade mechanism authorized in the plan.

NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT

Question. Are the recent findings of the Northeast States for Coordinated Air Use Management (NESCAUM), reported in "Air Pollution Impacts of Increased Deregulation in the Electric Power Industry: An Initial Analysis" consistent with your views on the potential impacts of deregulation? If so do you believe that additional controls are needed to offset increased generation by our nation's coal plants?

Answer. EPA is concerned about changes in electricity generation patterns between 1995 and 1996 that have resulted in increased emissions of NO_x from power plants, as cited by NESCAUM. Increased emissions for whatever reason, particularly if they persist into the future, are a matter of great concern to EPA.

In November 1997, EPA proposed a rule that would direct 22 eastern states and the District of Columbia to substantially reduce NO_X emissions in order to address the transport of ozone. With further authority to implement a cap-and-trade mechanism for power plant NO_X emissions, as proposed in the Administration's electricity competition plan, EPA believes it can effectively prevent such emissions from increasing in the eastern U.S.

CLEAN AIR ACT: NO_X EMISSIONS CAP

Question. Would additional controls, such as a cap on emissions of NO_X, give the EPA sufficient authority to offset the economic incentives that Midwestern coal plants will have to increase utilization in a deregulated environment?

Answer. EPA believes that a cap on NO_X emissions, with trading, would effectively remove economic incentives for increased utilization of coal-fired plants that might otherwise occur in a deregulated generation market due to differences in environmental standards.

DIESEL EMISSIONS: PROMOTE VOLUNTARY SIP

Question. New Jersey is the leader in promoting voluntary SIP credit programs for diesel retrofits. I hope that, with EPA's support, this program will be undertaken by other states. Please provide me an update of EPA's initiative to promote voluntary SIP credit programs for diesel retrofits.

Answer. EPA and its partners are developing a retrofit protocol that will provide the basis for voluntarily obtaining SIP credit programs for diesel retrofits. The protocol is in the final stages of development with a completion target by September 30, 1998. EPA's partners in this effort include the Northeast States for Coordinated Air Use Management (NESCAUM), New Jersey Department of the Environment, and numerous industry groups.

EPA is developing a procedure that maximizes flexibility while at the same time providing a high degree of assurance that the credits generated are related to real-world emission reductions. The protocol is being written such that it will apply to a wide range of retrofit technologies, and will serve as the basis for numerous other retrofit protocols/programs.

EPA's Office of Mobile Sources (OMS) will be promoting the New Jersey retrofit program as the first Voluntary Measures protocol developed under EPA's Voluntary Measures Policy and will be promoting voluntary diesel retrofit programs for other areas at regional workshops around the United States. Four workshops are cur-

rently planned. These workshops will be publicized nationally and will be attended by numerous state, regional, and local government officials as well as private industry representatives. In addition, the concept of obtaining SIP credit for diesel retrofits will be promoted through other channels to the EPA regional offices, state and local governments, and other stakeholders. Information will also be available at EPA's web site, at the retrofit pages.

CLEAN AIR ACT: NO_X ENFORCEMENT

Question. There are two specific issues before EPA dealing with NO_X. One involves a challenge from Mid-west governors and utilities; the other involves enforcement action against diesel engine manufacturers. Could you please update us on the status of each and your judgment on the time-table for settling each matter?

Answer. On November 7, 1998, the Environmental Protection Agency published in the Federal Register a proposal to require 22 states and the District of Columbia to submit state implementation plans that address the regional transport of ground-level ozone, the main component of smog. In addition to the original proposal, EPA published a supplemental notice to this rulemaking on May 11, 1998. The comment period for the supplemental notice extends through June 25, 1998. EPA has received a considerable amount of comments on this rulemaking from states, affected industries, and other stakeholders, including Midwestern governors and utilities. EPA will continue to work over the next several months to address comments submitted for both the notice of proposed rulemaking and the supplemental notice. EPA expects to complete the final rulemaking in September 1998.

EPA and the Department of Justice are negotiating settlements with the manufacturers of heavy duty diesel engines that are alleged to have been built with defective emission control devices. Negotiations should be finished by the end of June 1998.

GPRA: EPA GOALS VS ENVIRONMENTAL GOALS

Question. Could the Agency provide me a list of those activities which promote clean air, clean water, safe food and each of the other environmental goals, which are now characterized as supporting "credible deterrence," "right to know," "sound science," "pollution prevention," and other EPA "goals" that are actually means to achieving environmental goals?

Answer. You will find a listing of the activities implementing the three goals you cite in the description provided in the combined budget/annual plan document. However, we are unable to provide an authoritative disaggregation of these activities in terms of the specific contribution made to the three goals you cite. Part of the reason for the goal structure is to represent the Agency's efforts at improving the means of environmental protection. However, please note that much of what the Agency expects to accomplish (expressed as "performance measures" in the budget/annual plan document) in these areas relate to contributions to water quality, drinking water, air quality and the like. To point out two general examples, the performance measures contained in Goal 9 break out compliance and enforcement workloads by the kind of environmental program they support (e.g., mobile sources, water—pollution discharges, pesticide and toxic inspections, etc.). In the second case, many of the "deliverables" committed to in Goal 8 relate to better understanding of the interrelations of multiple receptors of pollution, of benefit to multiple media environmental control programs.

GPRA: ACHIEVING ENVIRONMENTAL GOALS

Question. Could the Agency please provide me the means by which it tracks the effectiveness of its activities in achieving the environmental goals of clean air and water and safe food?

Answer. You will find a listing of the activities by which the Agency plans to achieve its objectives for clean air, water and safe food in the description provided in the combined budget/annual plan document. We acknowledge that such measurement of program effectiveness is a matter for continuous improvement. For example, part of our commitment to implement GPRA is to institute an ongoing "multi-year planning" effort in each of our 10 goals, for the explicit purpose of fashioning a "roadmap" for improving the performance goals. Specifically, our agenda is to make more of our annual performance goals expressions of discrete, incremental progress towards longer-term targets of explicit environmental-quality improvements.

GPRA: TRACKING PROGRESS OF INDIVIDUAL COMMERCIAL SECTORS

Question. Does the Agency track the progress of individual commercial sectors in reducing their air and water pollution and waste, and in providing safer products and services?

Answer. EPA does not have a sector-specific tracking system for environmental performance. However, the Agency makes use of its various data bases in working with specific industries in its sector programs, using these data to assess the environmental performance and improvement opportunities for the selected industries. Data bases such as TRI enable the aggregation of environmental performance data on a sector-specific basis. Programs such as the Agency's Sustainable Industry Program and Sector Profile Program provide an important foundation of information on which to base sector-specific program and policy development.

In addition, the CSI Metal Finishing Sector has recently launched a voluntary, sector-wide Strategic (Performance) Goals Program. This first-of-its-kind reinvention program includes a multi-stakeholder endorsed system for tracking the progress of the sector in achieving its goals for improved resource utilization, emission reduction, compliance, and regulatory burden reduction. (Several Connecticut stakeholders contributed to the development of this program.)

With regard to safer products and services, these outcomes are closely tied to continuous, cost-effective improvement in environmental performance—the stated goal of EPA's sector-based environmental programs. The Agency does not track these performance criteria, largely because it extends beyond EPA's scope of responsibility; the Consumer Products Safety Commission may have a product safety data base that is sector-based.

GPRA: PROMOTING PROGRESS OF INDIVIDUAL COMMERCIAL SECTORS

Question. How does the Agency assess the extent to which its enforcement, right-to-know, technical assistance, and voluntary partnership activities promote progress in individual commercial sectors?

Answer. EPA makes a particular effort to assess whether the sum of its activities and initiatives (such as right-to-know, enforcement, and technical assistance) promote progress in individual commercial sectors when such sectors are identified as being especially important sources of pollution that adversely effect human health and/or the environment. In these cases, it is the Agency's responsibility to determine whether its efforts are effectively reducing if not eliminating the problematic discharges and emissions. If discharges are not being adequately reduced, then the sector approach will often help determine alternative approaches that may yield the desired improvements. Sectors that discharge high volumes of highly toxic chemicals and other types of pollutants are typically those that fall into this category. Past efforts to holistically assess the effects of EPA's activities have included sectors such as pulp and paper, petroleum refining, printing, and dry-cleaning.

GPRA: MOVING TOWARD STRATEGIC PLAN

Question. Does EPA intend to move, at some point, to a strategic plan in which "EPA's Goals" are environmental goals exclusively, and in which all activities are developed and assessed in terms of their effectiveness of achieving the environmental goals?

Answer. A strategic plan that could express objectives purely in terms of environmental measures may indeed be a worthy ideal. However, two practical considerations work against achievement of such an ideal. First is the reality of being able to accurately represent the contribution from the necessary support activities, including those enhancing the means of improving environmental quality.

Secondly, environmental protection is more effectively and efficiently achieved by giving citizens the means to know their problems at the grassroots and to solve them, by better scientific understanding of the problems and their solutions, and by more efficient compliance with essential standards through a better appreciation of the deterrence value of enforcement. Hence, all these are essential Agency priorities on a par with the Agency's basic responsibilities to see that levels of environmental quality are sustained and improved. The Agency is committed to "working smarter," to foster a new way of achieving environmental protection, and its choice of strategic goals reflects that commitment. This commitment embodies the realization that sustained improvements in the quality of the air, water, food and other kinds of environmental media that we all seek will depend, in the long run, on fashioning new ways of doing business that build on the successes to date. Sometimes better "means" are as valuable as better "ends."

QUESTION SUBMITTED BY SENATOR HAGEL

COMBINED ANIMAL FEEDING OPERATIONS (CAFO'S)

Question. EPA has proposed broadly regulating this nation's livestock producers and their operations. In Nebraska, it is clear that the onerous "one-size-fits-all" approach of Federal livestock regulatory standards is not appropriate. It fails a "real world" test. In reality, this will add another frustrating level of Federal bureaucracy on our livestock producers, on top of regulations already imposed and enforced by the Nebraska Department of Environmental Quality (DEQ). What is the cost of forcing these EPA regulations on our livestock producers? What is the impact on local main street commerce? These questions are completely disregarded by an EPA bureaucracy that regulates from Washington with no understanding of the implications of their actions in the real world. And for what? Why?

Answer. EPA is presently working with the U.S. Department of Agriculture to develop a joint strategy on animal feeding operations (AFO's). This strategy will give priority to the development of voluntary, incentive based approaches to assisting livestock producers in efforts to protect the environment. The vast majority of animal feeding operations are likely to be addressed using these voluntary approaches.

Some large producers now have permits under the Clean Water Act and the strategy may call for some additional producers to obtain such permits over a specific period (e.g. by 2005). Some States now require livestock producers to address water quality and related environmental issues. National minimum regulations related to animal feeding operations help assure that large facilities have a "level playing field" and that producers in States with strong environmental programs, like Nebraska, are not at a competitive disadvantage in competing with producers from States with less protective requirements.

The costs to a given facility of any future Federal requirements for reducing water pollution from large animal feeding operations will vary based on several factors including the specific pollution control requirements and the extent to which some facilities may already have implemented some or all of the requirements under local, State or Federal laws.

SUBCOMMITTEE RECESS

Senator BOND. The subcommittee will stand in recess until May 7.

Ms. BROWNER. Thank you.

Senator BOND. Thank you.

[Whereupon, at 11:53 a.m., Tuesday, April 30, the subcommittee was recessed, to reconvene at 9:30 a.m., Thursday, May 7.]

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, MARCH 5, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:33 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Christopher S. Bond (chairman) presiding.

Present: Senators Bond, Burns, Stevens, Mikulski, and Boxer.

FEDERAL EMERGENCY MANAGEMENT AGENCY

STATEMENT OF JAMES LEE WITT, DIRECTOR

ACCOMPANIED BY:

GARY JOHNSON, CHIEF FINANCIAL OFFICER

MICHAEL ARMSTRONG, ASSOCIATE DIRECTOR, MITIGATION DIRECTORATE

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. The subcommittee will come to order.

Today's hearing is the first VA–HUD Subcommittee hearing for the fiscal year 1999 appropriations process. Once again, we will be confronted with a very tough task in crafting the 1999 appropriations bills as the discretionary budget caps established in last year's budget agreement provide for no real growth in nondefense discretionary spending.

Unfortunately, the President and the Office of Management and Budget did us no favor in proposing a 1999 budget which breached those caps by using what I consider to be phony offsets. Moreover, the President's budget request in a number of key areas within this subcommittee's portfolio falls short of the need, including veterans medical care, housing for the elderly, and FEMA disaster relief, which we will be discussing today.

Clearly, we will be forced to make some difficult tradeoffs in order to accommodate such critical funding requirements.

This morning we will take testimony from the Federal Emergency Management Agency, followed by the Corporation for National and Community Service.

We welcome James Lee Witt, Director of the Federal Emergency Management Agency and those accompanying him this morning.

Mr. Witt, while we in Washington have enjoyed a very mild winter courtesy of the weather phenomenon known as El Niño, other parts of the country have not been so fortunate. FEMA currently is responding to major disasters in more than a few States which are reeling from El Niño-related weather events.

Mr. Witt, once again you and the FEMA staff deserve praise in your response effort and we acknowledge your good work. We look forward to getting an update on the status of disaster relief efforts in New England, Florida, and California and other States and territories suffering major disasters in recent weeks.

Turning to the budget request, FEMA is requesting $831 million for fiscal year 1999, including $308 million for disaster relief. In addition, FEMA is requesting $2.3 billion in disaster relief contingency funds outside of the discretionary caps.

SAFETY OF DAMS

For the operating programs and the emergency food and shelter program, FEMA's request is modest and represents little change from the current year. We do, however, have serious concerns with the proposed $11 million cut to State and local assistance and the $1.4 million cut to the new dam safety program. I am very disappointed that the powers that be at OMB have not recognized the value of your disaster mitigation program as it relates to FEMA's dam safety program. The program is authorized at $3.9 million this year, a measure I fought hard to get in the authorization because we know too well the disasters that occur when dams fail. Yet OMB saw fit only to request $1.5 million.

As you may recall, last year the administration requested zero funding for the dam safety program. OMB, our good friends of budget cutters——

Senator MIKULSKI. Shouldn't that be safety of dams?

Senator BOND. The safety of dams?

Senator MIKULSKI. It sounds like the damn safety program. [Laughter.]

Senator BOND. The way they are funding it, I prefer to call it the dam safety program. When they give it full funding, we will call it a safety of dams program. [Laughter.]

Our good friends at OMB are often accused of knowing the cost of everything and the value of nothing. That seems to fit in this instance.

The $1.5 million request is unacceptable. We will work to remedy it in the committee bill. And if my distinguished ranking member insists on calling it the safety of dams program, we will so designate it.

Not surprisingly, we will focus on disaster relief issues today. FEMA's proposal to take off budget $2.3 billion in fiscal year 1999 disaster relief costs is extremely troubling. Moreover, FEMA's budget request for fiscal year 1999, including the off-budget contingency funds, is not even enough to cover anticipated requirements for fiscal year 1999 and prior year disasters.

BURGEONING COST OF DISASTER RELIEF

Once again, the VA–HUD Subcommittee will be confronted with a need to replenish the FEMA checkbook. Had the administration

budgeted for those requirements under the caps, it would have made our job a lot easier. That would have been the fiscally prudent course to follow.

As you know, Mr. Witt, I have long been concerned with the burgeoning costs of disaster relief. In the last 5 years, we have appropriated a staggering $18 billion to FEMA for disaster relief, compared to $6.7 billion for the prior 5 year period.

COST CONTAINMENT IN DISASTER RELIEF

Nature has not been that much worse. Costs clearly are out of control and something just has to be done about it.

For several years, I requested FEMA to submit a legislative plan to control disaster costs. After much cajoling, arm twisting, and threats of reduced funding, FEMA finally submitted a proposal for reforming the Stafford Act last summer.

The proposed amendments address several very important areas, including new incentives for mitigation, streamlining the grant process, and eliminating certain facilities currently eligible for disaster relief, such as golf courses.

It did not include all of the reforms recommended by the inspector general or the GAO, such as the need for disaster criteria, but it was a good first start and I appreciate the work that you put into that proposal.

I remain hopeful—I am not sure why, but being an eternal optimist, I have some hope—that the legislation will be acted upon by the authorizing committee this year and I would strongly urge you and request you to do all you can to encourage such action by working with members of those committees, as well as such stakeholders as the States, cities, counties and others.

While legislative changes may not be feasible in the near term, I believe there is more FEMA can do to control costs without amendments to the Stafford Act. But FEMA has not made cost containment a priority, as demonstrated by the fact that FEMA's strategic plan does not even address this issue.

I must tell you that I am disappointed that FEMA still has not yet issued a final rule limiting the number of appeals, an administrative change which has been promised for some time. Without legislative or administrative changes to the current disaster relief program, we can expect that disaster relief costs will continue to rise each year. This simply is not sustainable.

We must get a handle on disaster relief costs. I would hope you would be willing to make disaster cost containment as much the hallmark of your tenure as you have made mitigation.

Let me also add that there are many reasons for the increase in disaster costs, not the least of which is the numbers and severity of earthquakes, hurricanes, and other disasters. But we should also acknowledge that, as FEMA has become more proactive, States have become increasingly reliant on Federal aid.

In the past 5 years, the number of requests from Governors for major disaster declarations has increased by 36 percent.

I firmly believe that the State-FEMA relationship must be a true partnership. There must be a strong State commitment to preparedness, there must be accountability. If States are not doing their share, are not requiring adequate insurance on municipal fa-

cilities, are not undertaking appropriate mitigation measures, there ought to be consequences, possibly in the form of reduced Federal aid.

That is not a popular stance. That is taking away the dessert plate. That is taking away the candy and ice cream. But I believe it is a fair stance.

PREDISASTER MITIGATION CRITERIA

Moving on to mitigation, an area you have made a top priority, FEMA is requesting $50 million for its new predisaster mitigation program, called Project Impact. While the concept of building disaster resistant communities is excellent and your focus on this critical issue is commendable, I am concerned that we have not seen reasonable, quantifiable criteria or guidelines for how this program should work.

Recognizing the importance of mitigation, we agreed to provide $30 million for Project Impact for fiscal year 1998, but did so with very few details from FEMA. This program must have clear criteria and performance measures. It must be more than a new grant program, but a strategic element of a national strategy to encourage actions to mitigate future disasters. And we must understand the distinctions between this program and the hazard mitigation grant program under section 404 of the Stafford Act for which $1 billion currently remains unobligated.

I continue to have concerns with the fact that the States are not spending these funds and question the establishment of a new program when the existing one is not being fully utilized. We understand that a report is underway and due to us at the end of the month, which we hope will address these issues.

Mr. Witt, I understand that in testimony before our House counterparts earlier this week you stated that it is your real friends who tell you what you need to hear.

Well, by now I hope that you will consider us your very good friends.

Let me turn to my distinguished ranking member, Senator Mikulski.

Senator MIKULSKI. Mr. Chairman, in recognition that the full committee chairman is here, I would defer to him and extend the courtesy.

Senator STEVENS. I thank you very much. I am here to listen and just make one comment. But I would be pleased to hear what you have to say, too.

STATEMENT OF BARBARA MIKULSKI

Senator MIKULSKI. Thank you very much, Mr. Chairman.

Mr. Witt, we welcome you once again to the Appropriations Committee and want to thank you and also the very able staff of FEMA and also the FEMA people in the field who have responded to the tremendous number of disasters that we have had this year, whether it has been Maine ice storms, tornadoes in Florida, disasters de jour in California, and also throughout the United States of America there seems to have been, particularly in the last 3 years, an increase in natural disasters.

We look forward to hearing what you need in order to be able to respond. But, as you know, when you took responsibility for this agency and brought under this rapid response, we talked about two things: one, preparedness. In other words, what can we do before a disaster occurs to make sure that FEMA and the people in the States were fit for duty.

We would like to hear where you are in preparedness and what financial resources you need to do that.

Second, we are looking for predisaster mitigation. As you and I know, it is often the infrastructure of local communities or a variety of other aspects of a specific community that makes them disaster prone. We cannot stop the forces of nature though we can often predict what a community will do.

I will be interested to know how we can, using predictions, prevent at least the consequences to property and to human lives. I think that is really one of our biggest challenges in the area of prevention.

The other area I would like to be able to take up in my questioning, though, is something not caused by nature but something caused by the rogues and scum of this world and it is those who have biological weapons, those who are developing right now the repugnant, despicable, ghoulish weapons of mass destruction.

I know that you are a vital part of the President's team to make sure that we would be able to prevent and have the ability to respond to a biological or chemical terrorist attack on the United States of America or one of its communities.

I look forward to hearing as much as you can share in an unclassified briefing what FEMA is doing so that we stand ready in the event that there is any attempt to attack the United States of America, we have our defenses from the military and we have our civil defense.

Thank you, Mr. Chairman.

Senator BOND. Thank you, Senator Mikulski.

Now I turn to our distinguished chairman for his comments.

STATEMENT OF TED STEVENS

Senator STEVENS. Thank you, Mr. Chairman.

It is nice to see you, Mr. Witt.

I have come because I share the feeling that Senator Bond has just expressed. The amount of money that we have going out on disaster relief I do not criticize as much as I am trying to analyze. It does seem to be on a very sharp curve upwards and it comes at us in a way that we can hardly deny the next victims the same level of support that the victims of the last disaster received.

And yet, I am not sure that we have looked at those services and payments with really an analytical eye in terms of ability to afford in view of the caps we live under now. I have come to ask you this.

I was going to ask GAO to take a look at it. But have you studied how the changes in the past few years in terms of the benefits that are available to victims of disaster, particularly with regard to those who are living in areas that seem to have the same disaster pattern every 2 or 3 years?

I saw someone from one State that said well, yes, he had rebuilt his house three times.

Now somewhere there has to be a limit that says if you rebuild it once, that ought to be enough for the taxpayers. If it is destroyed again by a flood or the same kind of disaster, it would seem to me that there was some risk taking in staying in an area where there are flood plains, for instance, or hurricane patterns.

With due regard to my friend from California, I remember as a young man when one whole area of California slid into the sea. I was interested to see that it was the area behind that that slid in this year.

We have to get some standards, I think, and some criteria so that we can be freer, particularly when I realize that the new Madrid Fault Line is still there and it has not rung the bells in Boston for 100 years.

We are going to get a massive one, soon, and if we apply the same level of assistance to people in massive disasters, we just will not be able to afford it.

Are you making a review on that now?

Mr. WITT. Yes, sir.

Senator STEVENS. When would we see the results of that review?

Mr. WITT. We hope very soon. We are looking at the entire disaster program across the board including individual assistance grants and the public assistance program, which we are reengineering and streamlining.

LOANS VERSUS GRANTS FOR DISASTER RELIEF

Senator STEVENS. I remember so well the 1964 earthquake in Alaska. We got a series of loans to rebuild our homes.

I noticed that in recent disasters, people get grants to rebuild their homes.

Mr. WITT. Some of them do qualify for grants.

Senator STEVENS. We have changed the standards considerably through the program. Is that an unfair judgment?

Mr. WITT. I don't think the standards have been changed, Senator. The loan program that you are referring to is an SBA program.

Senator STEVENS. Yes.

Mr. WITT. The individual and family grant program, is a program that FEMA funds at a 75/25 match with the States who run the program.

The average grant to homeowners nationwide is about $3,500. The maximum allowable under that program is $13,400.

The homeowners may be eligible for up to $10,000 to make their home livable in lieu of receiving temporary housing under the Disaster Housing Assistance Program. But before applicants can qualify for an IFG grant, they have to go through the SBA to see if they are eligible for a loan.

Senator STEVENS. All right.

I do not want to prolong this, but I do think the problem of fairness is going to come on us if we have a massive disaster and we try to make available benefits at the same level we have had for these unfortunate, but fairly small, disasters on a localized basis.

We have to make some tough decisions in advance of those big ones and I don't see how we can do it unless we have some real statistical data to see what is the fair thing to expect the taxpayers

to pay in the event of people suffering from disasters like we may incur in the near future.

Thank you very much, Mr. Chairman. I do have one question.

Senator BOND. Thank you, Mr. Chairman. I appreciate your support on this. It is not just the rebuilding of homes, but FEMA recently paid $400 million with a 10-percent cost share to rebuild a university hospital. Frankly, the university is in a lot better financial condition than the U.S. Government.

This approach is not sustainable. I very much appreciate the support of the chairman of the committee and I assure you that we will be following up.

We are delighted to have Senator Boxer with us.

STATEMENT OF BARBARA BOXER

Senator BOXER. Thank you, Mr. Chairman, thank you Senator Mikulski for your leadership.

James Lee Witt, it is always good to see you. I, unfortunately, get to see you too often in my State.

As a matter of fact, I would say to my colleagues that on Saturday, the President sat at the LAX Airport and he met with survivors of our recent El Niño storms and people who had been, literally, pushed by the force of mud out of their homes. There were families with babies, just an unbelievable array of people and stories.

I just want to thank him, even though the President obviously is not in this room right now. I wanted to thank him again for doing that. Also I wanted to thank Vice President Gore for visiting us and also, of course, Director Witt, who is always there. We consider you an honorary Californian.

I don't know how much more of this we are going to have. It is just a very eerie feeling because you go out there and the sun is shining, and yet you know what they are telling us. So far what they have told us is true. If this is so, we are going to see more of this, the force of nature.

I think what struck most people this time, Mr. Chairman, was when the two highway patrolmen were killed. You look at them and feel these guys are just going to be able to do anything they want. Well, they lost their lives trying to rescue folks who had fallen into one of these mudslides.

It is really quite amazing.

Let me get to the purpose of this hearing which is to discuss the future.

I am concerned about the immediate future, about the ability of FEMA to meet the need. I know that Senators, Congresspeople, and you will do all that we can. But I read yesterday in the press from a news wire that the President is submitting an amendment to the 1999 budget to use $1.86 billion of disaster funds to pay for the full cost of Bosnia.

I just would like for you to clarify that because that is clearly troublesome and I am hopeful, from the way you are already shaking your head, that that is in error.

I look forward to hearing you say that.

Let me just quickly ask if I can put my whole statement in the record and just make three quick points here, if I might.

Senator BOND. We would be happy to accept your full statement, Senator Boxer.

Senator BOXER. Thank you.

What I want to share with my colleague, Senator Mikulski, who came out to California for an El Niño summit, for which I was so grateful to her, and with you, Mr. Chairman, who have been so passionate toward all of us who have gone through this is that our El Niño summit and the fact that James Lee Witt was there and prepared for it really helped us.

We repaired all the flood damage from our 1997 storms. So we were ready. The levies so far are holding, knock on wood. We have streamlined the permitting process to get channels cleared and gave every good sized city and county information on how to prepare.

Also, because of our efforts, those of all of us, more people got flood insurance. We had a 40-percent increase in those folks who had flood insurance because we were out there before the rains started, giving out phone numbers.

Usually we sit here and complain about things. It is not that we do not have some complaints. But this was a good step forward. The agency has responded magnificently in terms of allowing us to rebuild freeways.

Just recently, this week, Santa Barbara will be able to move forward in cleaning out debris basins, which is very important.

As I say, we expect more storms and we cannot afford to not be vigilant. We know what is coming. We are grownups and have been warned.

I just want, once again, to say to James Lee Witt and to both my colleagues thank you very much. I am so honored to be on this particular subcommittee. It is not a theoretical assignment. It is such an important assignment for my State.

PREPARED STATEMENT

I thank both of you and I again thank James Lee. I look forward to hearing from him and getting some reassurances on the budget.

[The statement follows:]

PREPARED STATEMENT OF SENATOR BOXER

I first want to thank you, the President and Vice President Gore for your recent trips to California to visit with many of our people who have suffered through the awesome destructive power of the El Niño winter storms. These visits boosted spirits and added greatly to our efforts to recover from these storms.

I was there with the President when he met with those who suffered through the ordeals of this horrific mudslides.

The new FEMA was successful again in working with our State and local agencies to be ready to assist recovery efforts the instant the President issued his declarations. Since our El Niño summit last year, we have done a lot in California to prepare for the storms. We repaired all the flood damage from the 1997 storms, streamlined the permitting process to get our channels cleared and gave every good-sized city and every county information on how to prepare.

I am proud to know that as a result of our efforts, the number of National Flood Insurance Policies increased by 40 percent from 1996 to 1997, the largest one year increase in California in the program's history. I would like to hear further from you on how well we did in preparing State and local communities for this disaster and any suggestions for future improvements.

I want to thank you also for the news this week that Santa Barbara County was approved for $4.5 million in FEMA assistance for the clearance of 13 debris basins. I know my field staff worked very closely with local agencies and FEMA for this

request. That will be critical for preparing the county for the next round of El Niño storms.

Mr. Witt, as you know, we still face another series of El Niño storms. I would like to hear your best estimate of the impact of these storms, considering the fact that we now have a large snowpack in the Sierra mountains that will be melting soon and overflowing rivers and reservoirs. All indications say the El Niño storms are not finished. Since you are now an honorary Californian, let me thank you for returning "home" again and being there to assist us in our time of need.

IMPORTANCE OF BUYOUTS

Senator BOND. Thank you very much, Senator Boxer. As one who represents a State that has been heavily hit by disasters, particularly in the 1993 and the followup 1995 flooding disasters, we know how important the disaster relief is. We want to do everything to make sure that FEMA is well equipped to go there.

The rule that was put down for the Midwestern States after the floods was we will help you this time, but do not go in harm's way again.

We have worked with FEMA and other agencies for buyouts to get people out of the hazard areas. A recent article in the Washington Post, actually on Tuesday, mentioned a city in California that, since its incorporation 7 years ago, has had six federally declared natural disasters, resulting in actual and projected governmental costs of $15 million.

I think this is why we need to emphasize mitigation.

Senator BOXER. Absolutely.

Senator BOND. When we help people out, let's help them not out of the current disaster but to get out of harm's way in the future. I believe this is a goal we all share and want to work toward.

PREPARED STATEMENT

Senator Craig is unable to attend today's hearing, but has requested that his full statement be inserted in the record at this time.

PREPARED STATEMENT OF SENATOR CRAIG

Thank you, Mr. Chairman. I would first like to thank the Chair and the Ranking Member for holding this hearing in such a timely manner. I will not take long, but would like to take this opportunity to speak to the annual budget of the Federal Emergency Management Agency (FEMA).

Mr. Chairman, I am pleased to see my friend FEMA Director James Witt before us today. As you know, Director Witt has had a busy year. A great deal of his attention has been directed towards my home State of Idaho, which recently experienced a series of devastating natural disasters. A majority of the counties in Idaho have been named as part of a Presidential Declaration at one time or another during the last two years. Some were hit by ice storms, others experienced severe flooding or other disasters—many communities are still struggling with recovery efforts.

In each case, FEMA was quick to respond to our immediate needs.

Of course, Mr. Chairman, the needs of these communities continue long after the water recedes or the power comes back on. It is this continued need that I want to address here today. Last year, as part of the Senate Report which accompanied FEMA's fiscal year 1998 appropriations, the Committee noted:

> "The Committee recognizes the need for better coordination among Federal agencies and departments during the long-term recovery process following a natural disaster. The current lack of formal coordination of long-term recovery efforts stands in contrast to the recent experience of effective short-term coordination by FEMA. Accordingly, the administration is requested to submit a plan to Congress to provide for the designation of a single agency with the responsibility and authority to coordinate all long-term recovery efforts among the various participating Federal agencies. In addi-

tion, the Committee encourages the legislative committees to examine this important issue."

The need for such coordination was recently highlighted when the communities of Kellogg and Wardner, Idaho, experienced what has been called a "rain on snow event." With the ground already frozen and covered in snow, rainwater was unable to be absorbed. The result was a massive flood of water, snow, and mud through the heart of these two communities. Left in its wake was damage in excess of $10.8 million.

To help begin putting these two communities back together, FEMA assigned a special project coordinator to assist in the development of a long-term recovery solution. His assistance and knowledge of how Federal agencies function proved invaluable in initializing a coordinated recovery effort. While this appears to be the first coordinated effort of its kind, community and State leaders continue to struggle with a few remaining Federal agencies which have yet to fully engage in the recovery process. I continue to believe that what is needed is for the administration to develop a strategy to coordinate long-term recovery efforts.

I must report, Mr. Chairman, FEMA did an exceptional job in keeping the communities informed throughout this entire process. Likewise, the Idaho Bureau of Disaster Services has responded well above the call of duty to the ongoing needs of these communities. If nothing else, our experience has shown the need for better inter-agency coordination during the long-term recovery phase. I implore the Chairman to again stress to the administration the need to act on the Committee's request in this effort.

Mr. Chairman, I have one more item I would like to draw to the Subcommittee's attention. Included in the administration's request for funding is a net reduction of $11.4 million in State and local assistance grants. The changes would effectively replace the current Federal-State cost-sharing formula with a 50–50 split. I was surprised to learn from Director Witt's testimony yesterday before our counterparts in the House, that only a few States would be impacted by this dramatic reduction. Idaho State officials have informed me that my State is not fully prepared for such a shift in funding and that emergency efforts there would be severely jeopardized—putting many Idahoans at risk.

I will have several questions for Director Witt concerning this matter and would welcome any explanation he might give on this important issue.

Again, thank you Mr. Chairman for this opportunity. I look forward to the testimony here today and to working with you over the next few weeks to make sure the needs of the Nation are met.

STATEMENT OF JAMES LEE WITT

Senator BOND. Having given a full description of FEMA, perhaps it is time for us to hear from the witness.

So, Mr. Witt, thank you very much for being here. We will accept your full statement as submitted for the record for all the members of the committee and would invite you to provide us whatever highlights you wish to at this time.

Mr. WITT. Thank you, Mr. Chairman. Thank you, Senators.

First, I would like to introduce Gary Johnson, our Chief Financial Officer, who is with me. Also, Mr. Chairman, we have some new faces in the hearing today. I would like to introduce JoAnn Howard, who is the new Federal Insurance Administrator, to you. Also we have Mike Armstrong, the new Associate Director for Mitigation, and Michelle Burkett, whom I think you know, was our Regional Director in Chicago but is now over our Office of Policy and Regional Operations at FEMA headquarters.

Mr. Chairman, I want to make my opening statement brief and focus on a little of what we are doing, I know our time is short and you have a lot of questions that we hope to be able to answer.

In October of last year, Senators Boxer and Mikulski came to California to help us to address the El Niño predictions that were facing us. Because of their support and because of local government support, we had over 600 local officials at that El Niño summit.

Because of that summit and the awareness that grew out of it—every TV station in California was at the summit—communities cleaned up their channels, communities cut dead trees and dead limbs away from power lines, and there were communities that even had their citizens adopt storm drains, they actually provided them a raincoat and a rake to keep those storm drains open.

The city of Berkeley officials told me last week that they had probably saved over $7 million because of the preventative measures they took before El Niño. There are many, many other communities that experienced the same thing.

El Niño has cut a wide swath through our country, from California to the Gulf States, from Florida to the New England States. A lot of people have lost their lives—over 40 people in Florida, over 17 in California, several in the New England States, 7 in Tennessee, and some in North Carolina.

It has been a very unusual year. We had a typhoon in Guam in December. I can tell you the employees of FEMA should be commended for the way they responded to the typhoon in Guam and the dedication that they showed. They left their families during the Christmas holidays to help the people of Guam, just as they have across the country. I just want to thank them for their efforts.

PREPARED STATEMENT

I am looking forward to sharing with you what we are doing to contain disaster costs and with Senator Mikulski about our antiterrorism program.

I would be happy to answer any questions, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF JAMES L. WITT

Good morning Mr. Chairman, members of the subcommittee and staff. I am pleased to be with you today to discuss FEMA's budget for fiscal year 1999.

I am joined today by my Chief Financial Officer, Gary Johnson who, together with his staff, has done so much to make FEMA's budget easy to understand and the agency more accountable. Also with me are the rest of our executive management team, which contains some new faces and new perspectives.

For FEMA it has been another busy year. Last spring the Red River flood in the upper Midwest was devastating. In the fall we were blessed with a relatively quiet period, particularly during hurricane season. But at the end of the year, on December 17th, typhoon Paka devastated the northern part of Guam. Many FEMA employees from across the country spent their holidays away from family and friends to deliver assistance to those who'd lost so much.

I'm very proud of the employees at FEMA who make these sacrifices and just think of it as part of their job. That is why I have worked hard to keep our salaries and expenses at a level that can keep us fully staffed. With the responsibilities FEMA faces, we need our talented staff.

Recently the ice storms in the northeast created incredible damage in New York, Maine, Vermont and New Hampshire. My staff in operations support sent a convoy of trucks up to the region. Those trucks were filled with generators that provided emergency power so that life and work could continue.

These generators and other supplies were available through our Disaster Information Systems Clearinghouse (DISC) and our Territorial Logistics Center (TLC). The TLC was part of last years initiative to reduce disaster operating costs. By recycling and maintaining equipment used in a disaster operation, we saved over $13 million last year on computers, printers, fax machines and cellular telephones.

Right now we are dealing with what we knew was coming: El Niño. It has caused devastating floods around the country from California to the east coast and killer tornadoes in Florida. When scientists predicted El Niño, we worked with the highest risk States and communities to have people better prepared than ever before and I know that work helped make a difference.

As we look at our budget I first want to call your attention to our request for the disaster relief fund. This year we have asked for $307.7 million for the fund, including $121 million for disaster support costs. In addition, we have requested $2.26 billion in emergency contingency funds. Together this totals over $2.5 billion, which is our five year average for obligations, not including the Northridge disaster, plus disaster support costs. Such an appropriation would ensure that, regardless of disaster activity, we could continue to pay down our overall requirements from more than four hundred open disasters. We urge your careful consideration and support.

Another initiative this year is to aggressively work to reduce the hundreds of open disasters I just referenced. We have formed three territorial disaster close-out teams. They will be reporting to Gary Johnson and me on their progress. As the teams close out old disasters we will be deobligating funds from some of those events.

This can really make a difference. Our eastern team's first target was working on closing out a few old, and difficult, issues from Hurricane Andrew in Florida. We worked closely with the State, kept Senators Graham and Mack and other Florida offices informed as to our work, and we have made real progress.

What is required here isn't magic—but a clear focus on getting a job done. That is what these teams are doing. We will keep you apprised of our progress in closing out old disasters.

Our disaster response activities, as always, are critical, but I want to focus more on preparing for disasters and preventing repetitive damage. This leads to our request for $50 million for pre-disaster mitigation spending.

I don't think I've talked about any subject more than the need for pre-disaster mitigation. But I don't tire of talking about this subject because it is the future and it matters.

I'm especially anxious to discuss this project with this committee. Whether a family budget or a national budget, how we spend money reflects what we care about. FEMA's spending is the same.

And that is why my most significant initiative for this budget—a $50 million initiative—is for pre-disaster mitigation.

When we at FEMA talk about pre-disaster mitigation we are referring to project impact: Building disaster-resistant communities.

This is a partnership between FEMA and communities across the country that is powered by shared experience, local initiative and a determination to reach out to new partners with the belief that we can make a difference in reducing long-term disaster losses and human suffering.

To many communities, the multiple hazards they face, and have experienced in the past, made lasting impressions.

These are areas where I've visited too frequently. They are communities that are ready to reduce the loss of lives and property—communities that are tired of paying the price emotionally and financially.

The new partners I mentioned are the private sector businesses that have concluded that the better prepared a community is, the more likely the business will maintain operations after a disaster.

A company will stay in business if the town's infrastructure is able to withstand a disaster and, most importantly, they will be open for business if their workers can make it work, knowing that their town and their schools are safe and functioning.

Let me give you just a few examples of what is happening in our pilot communities:

—In Deerfield Beach, Florida, work is already underway to retrofit the high school, which also serves as the town's emergency shelter against the threat of hurricanes. At the same time the community is working closely with State Farm Insurance to construct an emergency operations center and meeting facility that will be retrofitted against local hazards. This model facility, which will be located along the I–95 corridor, will then be open to the public to provide mitigation information.

—In Seattle, the community is taking many creative and important steps to lessen their risks from earthquakes; from residential retrofitting to increasing school safety. Seattle is going to match our $1 million commitment with nearly $6 million in cash and in-kind contributions toward project impact.

—In Pascagoula, Mississippi, we are working closely with the city government and with Ingalls shipyard on a public awareness campaign that has something special to offer: Special loan arrangements by Merchant & Marine Bank to those homeowners who are taking out home improvement loans to make their homes safer from the threats of hurricanes, tornadoes, flooding and other potential disasters.

—In Alameda County, California, we are working with two communities that are not waiting for the worst to happen. The "Partnership for a Safe Oakland" is working to identify hazards and risks and implement long-term mitigation measures that could begin to counter the effects of future disasters. In Berkeley, the community has levied nearly a quarter billion dollars of taxes on itself to retrofit its schools against potential, future seismic damage.

In many project impact communities the Corporation for National Service, "AmeriCorps", is sponsoring a "spring break" event where its members will spend a week on project impact activities.

These are all exciting projects and we believe this is the future of emergency management. The time is now. Let's implement our knowledge and do those things to make our communities safer.

It is our hope, by the end of this year, to have one disaster-resistant community in each of the 50 States. I know we can do this with your support.

In a very fundamental way, project impact is being supported throughout the FEMA:

—Its objectives are included in training for our staff and State and local emergency managers and fire chiefs and other fire officials;

—It complements our work in flood insurance to address repetitive losses;

—It implements the knowledge developed by FEMA and its partners in the National Earthquake Hazards Reduction Program;

—It is another area of increased partnership with State emergency and floodplain managers; and

—It is encouraging improved flood mapping at the local level that can enhance our own mapping capability.

As we move forward on project impact, our Hazard Mitigation Program continues to work with States to move structures out of floodplains across the country. Over the last four years, we have moved more than 20,000 structures out of harm's way. This effort complements FEMA's National Flood Insurance Program.

Since the passage of the Flood Reform Act in 1994, and our "cover America" advertising campaign, we have expanded the number of flood insurance policies in the country from 3.2 million in 1995 to more than 3.9 million as of January 1998. During this last year, until the recent El Niño activity, we've had a slight break in flooding events. These factors have combined to help us reduce our borrowing for the flood insurance fund from $917 million to less than $810 million.

In addition, the Reform Act created the Flood Mitigation Assistance Program, which provides additional funds to remove endangered properties. We are working to target these funds and make them complement both project impact and our mitigation projects.

We are also working to help State and local partners mitigate their communities' fire risk through fire data analysis, new technological approaches to fire safety, public fire education and fire mitigation training.

Let me take this opportunity to connect our actions, because I want to demonstrate a full picture of emergency management that makes sense and is going to save us in the future.

—We are increasing the awareness of the risks facing the Nation through project impact and "cover America";

—The number of flood insurance policies are on the rise as people choose to protect themselves;

—We are responding more quickly, effectively and efficiently to disaster events;

—By implementing business process re-engineering FEMA will streamline our process for funding infrastructure repair in the wake of a major disaster;

—Following a flood disaster, we are implementing the hazard mitigation program to take vulnerable properties out of the floodplain;

as we move these structures, we reduce the Government's risk to the older construction with subsidized rates and also reduce our exposure to disaster relief costs.

As project impact communities multiply we are creating a positive movement that helps communities help themselves and others in reducing risk and increasing public health and safety.

Our first responder training for terrorism is widely recognized by local public safety officials as some of the finest training available to help communities prepare for this threat.

It's our own experience that tells us we are moving in a direction that inspires people to become involved in reducing the future risks both to themselves and to their children.

In fact, during the El Niño storms, one of the most hopeful stories was related to me by Congressman Sam Farr. As bad as the flooding has been, Congressman Farr said that the terrific work FEMA and State and local governments had done

together after the floods of 1995 to relocate residences was making a difference right now. There were families no longer in danger. Floodwater was coursing through areas that used to have homes but now was open space.

That shows it can be done. We can make a difference. This is an exciting time and a creative, exhilarating mission. We at FEMA appreciate the help the committee has given us to reach this point.

Another budget feature I want to call to your attention falls under our preparedness, training and exercises directorate. The program is REP—Radiological Emergency Preparedness. This program has successfully assisted State and local communities in assuring a responsible preparedness posture for communities surrounding nuclear power plants. Historically, FEMA's appropriation has been offset by fees collected from NRC licensees for our REP Program activities.

What we are requesting in our budget for the program is a one-time start up appropriation of $12.8 million for fiscal year 1999. This would transition the program to a self-supporting fund beginning in fiscal year 2000 which will assess and collect fees from licensees.

Recognizing Congress' support in 1998 for the Dam Safety Program, FEMA's budget for fiscal year 1999 also includes a request of $1.5 million for training assistance and training for dam owners and State dam safety staff.

One other initiative I want to take particular note of is our work to protect the health and safety of FEMA's remarkable staff. Our fiscal year 1999 budget includes an increase of nearly $2.2 million for health and safety abatement projects at our training center in Emmitsburg, Maryland as well as in our Denton, Texas and Bothell, Washington regional offices.

Let me conclude with my original point that our budget announces who we are and what we care about. At FEMA, we care about responding to disasters, assisting people and communities to recover from disasters and helping communities to lessen their risks in the future. This budget reflects those priorities.

I again want to thank this committee for their strong support over the last five years. All of us at FEMA appreciate the backing you've given us time and again that has increased our morale and helped us to do a better job.

Thank you for your time and attention. Together with my senior staff, I would be happy to answer any of your questions.

DISASTER RELIEF FUND

Senator BOND. Thank you very much, Mr. Witt.

What is the balance in the disaster fund? Do you have sufficient funds available to meet obligations for the remainder of the fiscal year?

Mr. WITT. Yes, sir; we have sufficient funds to meet obligations for the remainder of this year.

Senator BOND. The administration sent up a supplemental to Congress yesterday that did not include FEMA funding. I was interested to know why they were not looking at a request in view of the fact that there are not sufficient funds on hand, as I understand it, to meet fiscal year 1998 and prior year requirements.

You say you have adequate cash. But there are still disaster obligations out there that are not funded. Is that not correct?

Mr. WITT. Gary, would you respond, please?

Mr. JOHNSON. That is correct to a degree, Mr. Chairman. Through the support of this subcommittee and the Congress as a whole, the disaster relief fund was appropriated $3.3 billion last year.

By taking that action, you did, in fact, make our disaster relief fund current with prior year requirements and requirements up through the end of fiscal year 1997.

The appropriation for the current year, $320 million, may be problematic as we begin to get into more disaster activity. We may become short on requirements for the current year. Of course, the

problem, as you are well aware, rolls into fiscal year 1999 and has implications relative to our budget request for 1999, sir.

Senator BOND. You are requesting $2.3 billion in contingency funds for 1999. That amount, coupled with the on-budget request of $307 million, represents the historical 5 year average. But I understand that that is not enough.

Is it not true that your budget request is actually $1.1 billion short, assuming normal disaster activity for the rest of fiscal year 1998 and 1999?

Mr. JOHNSON. That is correct, Mr. Chairman, it is $1.1 billion short to meet obligations through fiscal year 1999.

Senator BOND. Why isn't FEMA requesting what is needed? Would you agree that you think it is fiscally irresponsible to request funds off budget, particularly when the costs are clearly anticipated?

Mr. JOHNSON. Mr. Chairman, we did request OMB for a direct appropriation of $2.6 billion, which included the 5-year average less Northridge plus disaster support costs.

COMMUNITY DEVELOPMENT BLOCK GRANTS

Senator BOND. In other words, OMB, again, has short-changed the disaster needs. That is distressing.

But at least the agency recognizes the need.

Let me turn to another aspect that has been rather troubling to me.

In recent years, there has been a growing interest in earmarking CDBG funds for disaster relief, community development block grant funds. Yet there is no authorized CDBG disaster program and it appears that CDBG funds might be duplicating what is provided by other agencies, such as the Economic Development Administration.

What is FEMA's role in developing national plans and policies for disaster relief programs Governmentwide?

Mr. WITT. Mr. Chairman, several months ago I had a meeting at the Old Executive Office Building with all the Federal agencies to talk about what we need to do and where we need to go in the future, as well the issue of duplication of programs. I, myself, visited Frank Raines, Director of OMB, and indicated that we seriously need to look at the duplication of disaster programs.

I am not an authority on HUD and CDBG dollars, but it is my understanding that when the CDBG dollars get into the States' and local communities' hands, then they are spent under their guidelines. They have used CDBG dollars to help match disaster costs, such as in the 1993 Midwest floods and in other areas.

Also, the CDBG funds have been used to help buy out property that is in flood prone areas in communities that we are trying to relocate and get out of harm's way.

So that is, basically, what we have tried to do.

We are continuing to work with other agencies on this issue. We just finished a long-term recovery report for the New England States that the President asked us to do which clearly shows a lot of areas that need to be tightened up and other areas of duplication.

NATURAL DISASTER REDUCTION INITIATIVE

Senator BOND. Again, referring to the Tuesday Washington Post, there was an article in there discussing the Commerce Department initiative called natural disaster reduction initiative, which includes grants to communities to encourage economic development officials and emergency planners to train together and improve coordination.

What is FEMA's role in the initiative? Do you have any say in that? Do you know anything about it? How does it relate to FEMA's Project Impact?

Mr. WITT. The only thing I know about that particular initiative is what I read in the paper, Mr. Chairman, but I am meeting with Secretary Daley tomorrow.

Senator BOND. That would be a good idea. Give him my best.

Mr. WITT. I will, sir.

Senator BOND. I would like to know how that is going to work.

Mr. WITT. Let me follow up and say that EDA has met with us and is going to target some of the high-risk areas in Project Impact and help them make mitigation a goal.

Senator BOND. Thank you, sir.

We somehow have not gotten our light system back from the Christmas recess. So I figure that, while it is still on recess, I have probably used up 5 minutes. I would like to make sure that all of our members have an opportunity to ask questions prior to the 10:30 vote.

So I will now turn to our distinguished ranking member, Senator Mikulski, for her questions.

PREPAREDNESS FOR TERRORIST ATTACKS

Senator MIKULSKI. Thank you, Mr. Chairman.

Mr. Witt, you have been one of the prime movers to move FEMA from being an old civil defense agency to a risk-based strategy, all hazards responding agency. I think we all became complacent after the end of the cold war that America would not face the direct attack of an intercontinental ballistic nuclear missile on the United States.

Now recent events have shown that we are vulnerable, that within our own borders we are vulnerable to the attack of terrorism. A terrorist is unlikely to unleash a nuclear bomb, but could unleash a biological bomb.

I am concerned, in reviewing the material, listening to the deputy sheriff of Los Angeles on "Nightline," listening to how Los Angeles would respond to this, that we might not be as fit for duty as we need to be or perhaps that we need to focus greater attention and greater resources on it.

The responses that I have heard seem to be based on the fact that if we would be hit by a biological bomb of anthrax, ebola, botulism, and a variety of other very repugnant and ghoulish biotech weapons, we would be working on the assumption that we would have lots of warning, that we would have good weather, and we would have a compliant population, eagerly sitting by their radios to be told exactly what to do.

I do not think any of those criteria exists. I hope we would have plenty of warning. But good weather is something we could not predict. Also, anthrax is an airborne illness, as are some of the others I have mentioned, and a compliant population is unlikely to happen if they think their children or their mothers, their aged mothers, are at risk.

So I now turn to you for you to tell me what is FEMA's role in the whole issue of America being ready for any attack within its own borders from a new kind of bomb, biological or chemical, waged against our own people.

Mr. WITT. Thank you, Senator Mikulski.

We are asking for $6.8 million in terrorism funding this year. Our role in terrorism is consequence management.

Senator MIKULSKI. Mr. Witt, I can't hear you.

Mr. WITT. We are asking for $6.8 million in counterterrorism and antiterrorism funding this year. Our role in the Government's terrorism program is on the consequence management side. The Justice Department has the lead role on the criminal or crisis management side.

Included in this $6.8 million, is $3.2 million for grants to States for terrorism planning exercising and training activities of which $1.2 million is for State and local grants, and $2 million is for firefighter training. Approximately $1 million is for consequence management planning and coordination for special events such as the World Games, interagency planning, and maintenance of the rapid response information system. Another $0.6 million is for planning, training, exercise programs, and related travel; and $2 million is for FEMA personnel protection measures, including our Federal Regional Center needs.

FEMA'S ROLE IN FEDERAL TERRORISM EFFORTS

Senator MIKULSKI. Mr. Witt, what exactly is FEMA's role, though. When you say Justice is on the criminal side and I am on this side, we are really all on the same side.

Mr. WITT. Exactly.

Senator MIKULSKI. So tell me what exactly is FEMA's role?

Mr. WITT. Our programs are supporting DOD and Justice. We have worked with them to develop——

Senator MIKULSKI. Tell me in concrete terms from the perspective of a local community or a State emergency management what is your role and is $6 million enough to get America ready to deal with this?

Mr. WITT. Because of the difficulty in dealing with a terrorist situation, I do not think all of our State and local governments are prepared to respond so our role is to support their efforts to prepare and respond to incidents like this.

On Friday I met with the Deputy Secretary of Defense and the Acting Secretary of the Army, Mike Walker to go over the terrorism program. We talked about what is happening in 120 metropolitan cities. I think we need to cover more people, particularly fire service people who are going to be first responders on the scene.

We should not reinvent the wheel but utilize the existing structures that we have in place, such as State fire training academies, State training offices of emergency management, and National

Guard units in each State, and through a team effort at the State and local level, train these people to know what to do should a terrorist incident occur.

Senator MIKULSKI. Mr. Witt, do you believe that there is a sense of urgency within the task force to begin to have these plans? Do you believe there is a sense of urgency?

Mr. WITT. Yes; I do.

Senator MIKULSKI. Is the coordinating task force of Defense, Justice, FEMA, et cetera, meeting with regularity?

Mr. WITT. We are working very closely together and very hard.

Senator MIKULSKI. Are you meeting with regularity?

Mr. WITT. Yes.

Senator MIKULSKI. And then, in terms of that, what is the role of HHS to back you and the Department of Defense and the National Guard up?

Mr. WITT. HHS has responsibility for the disaster medical teams that would be trained and equipped to respond. HHS, EPA, FEMA, DOD, and Justice all have important roles in this. We are also annexing this into our Federal Response Plan as well.

Senator MIKULSKI. Mr. Witt, I would like to pursue this with you in more detail. I understand that yesterday there was a hearing with the intelligence community. Senator Gregg, our colleague, and State-Justice-Commerce are pursuing this.

I do not want to sound the alarm in terms of exacerbating fear among the American people. I know that there will be a classified briefing. I would like to discuss this with you further, where we have marshaled the resources of the Federal Government to be ready and that we are ready, building on existing Federal response structures, and also our existing public health network.

Unlike a fire or a hurricane, where it is disaster relief that comes in, the first responders here will be the people in emergency rooms who might not know what is happening.

So I would like to discuss this with you further and also the aspect of whether $6 million is enough to do it.

Do I have another minute or is my time up?

Senator BOND. You have 1 more minute.

Senator, I know that we have votes at 10:30. I want to give all the members here an opportunity for questioning the Director.

Senator MIKULSKI. Let me cooperate with you in that, Mr. Chairman.

You know my concerns, really, the whole issue of preparedness, meaning prediction, also what we need to do for disaster mitigation and then also we do share Senator Bond's concerns about fiscal matters.

But let me yield to my colleagues in that spirit of the vote.

Senator BOND. Thank you very much, Senator. I very much appreciate your bringing up that important consideration.

Let me turn, on a rotating basis, now, to Senator Burns.

NATIONAL ASSOCIATION OF COUNTIES [NACO]

Senator BURNS. Thank you, Mr. Chairman. I have another hearing going on now, a budget hearing, and one of my favorite people to beat up on is Secretary of Interior Babbitt, who is there. So I don't want to spare him that exercise. [Laughter.]

Mr. Witt, thank you for coming this morning. I only have one question and will be very quick.

How many meetings did you or your people have with the representative with NACO, that meeting just concluding this week here in town?

Mr. WITT. Several staff people from our offices met with NACO this week.

Senator BURNS. Did you meet with any of the folks at NACO?

Mr. WITT. I was not invited to, sir.

Senator BURNS. You were not invited to?

Mr. WITT. No, sir.

Senator BURNS. Oh.

I want to go down the same line that Senator Mikulski went down because that is the only group that comes to this town that does not have their hand out and is not asking for something. They come to town with solutions and most of them are on the ounce of prevention side in some of our disasters.

Mr. WITT. Yes, sir.

Senator BURNS. I am concerned that they did not get a very good audience from this administration. I am sorry we crossed up in communications. Maybe we can work on that. But I met with three other groups. One of them was a public safety group and they sort of complained that they really did not get the audience that they wanted to get. Now whether that was a snafu in scheduling or whatever, I don't know.

But I would suggest that this is a group that is actually the first responders. They are actually the people who are on the front line.

We have to be aware that it does not take missile launching capabilities to hit this country with the kind of weapons that bad people have nowadays. The kind of weapon that is out there right now that probably grows as much fear in the American people can be delivered in a briefcase. It can walk through any airport at any time of day and get into this country. County, first responders, are concerned about this.

So Senator Mikulski raises a very valid point. In that structure, even though you are talking to Defense, and even though you are talking to HHS, talking to all of these Government agencies, let's not overlook the role that the counties will play in the event of an emergency.

I think they have to be in on the very, very first of the discussions when we talk about response to an emergency of that kind.

That is the only thing I have to say today. I think you are doing a great job.

Mr. WITT. Thank you.

Senator BURNS. I just would suggest that this is what I picked up from their organization. I do not know the details on it and I would not go into the details because I know how those things happen.

Mr. WITT. Mr. Chairman, if I could respond. Senator, I was a member of NACO as a county official for 10 years, and I know how important that organization is.

Senator BURNS. I am one of those old county commissioners, too.

Mr. WITT. I have spoken to and worked with NACO many times when they have been to Washington. NACO is part of our emer-

gency management task force, as is the National Emergency Management Association [NEMA].

Mike Armstrong, Associate Director for Mitigation, and Bob Adamcik of the Response and Recovery Directorate, spoke to the emergency committee at NACO while they were here.

I would be happy at any time to meet with them. I think they are the greatest. They are at the grassroots level.

Senator BURNS. Yes; it sure is. I know you are aware of that.

Mr. WITT. Yes, sir.

Senator BURNS. I just wanted to make that suggestion and say to the rest of my colleagues that this is where it is going to be. The first decision made in any kind of emergency of that kind is very, very critical as to whether we get the response started right or wrong. That is the basis of that.

So I appreciate your sensitivities to that and congratulate you on that.

That is the only thing I have to say, Mr. Chairman. Thank you very much.

I will now go upstairs and beat up on Babbitt. This is beat up Babbitt day, or BBD. [Laughter.]

Senator BOND. Senator Burns, thank you. Thank you for coming here in such a kind, cooperative spirit. We appreciate that. We appreciate hearing your kinder, gentler side.

I will now turn to my colleague from California.

Senator BOXER. Things get pretty bad when Senator Bond turns to me to bail him out of a problem here. Things are very interesting. [Laughter.]

Senator MIKULSKI. Is this a hearing on encryption? I mean, what is going on?

Senator BOXER. I don't know, but we are going to wait to find out.

Senator BOND. Senator Boxer.

Senator BOXER. As Senator Burns is leaving, and he has admitted that he is an old county official, since we are all admitting how old we are, I, too, am an old county official. I, of course, would echo those words.

I think that both Senators Mikulski and Burns have pointed out the fact that those are the folks who are at the front lines. No one understands that more, James Lee Witt, than you do.

I would say when he backed Senator Mikulski in her line of questioning that I would add he talked about a bomb sneaking through an airport. In Oklahoma City, of course, it was from one of us. So it is even more of a devastating threat because it could be a threat from within as well as from without.

Without getting off into that line of questioning, I just want to say, Mr. Chairman, that if there is a way for this subcommittee to focus a little bit more on the issue Senator Mikulski did raise, I think it would be important. I think we are so focused now, because of El Niño, that it is hard to turn our attention from that. But, clearly, you are doing it and I hope you will let us know if you do not feel you have the resources that you need.

BUDGETARY SOURCE FOR BOSNIA AMENDMENT

In the 4 minutes I have left, I have a few questions. You did not answer my first question which was this wire service story, the U.S. wire story that says for 1999, the President's budget contains an allowance for emergencies and national disasters but that he is submitting an amendment to use $1.86 billion of those funds to pay for the full cost of Bosnia operations.

Mr. WITT. I could not answer you, Senator, because this is the first time I have heard of it.

Senator BOXER. OK. Could you check that out?

Mr. WITT. Yes; I certainly will.

Senator BOXER. That will be helpful because I think, if that is the case, we have some problems here.

FLOOD PREDICTIONS

I want to ask, as we look at California, what is your best prediction or the predictions that you are getting from NOAA and others of further flooding this spring when the snow pack melts and El Niño brings more storms? They are talking about through April.

Mr. WITT. I am very concerned about it, Senator Boxer, and have met with General Furman of the Corps of Engineers. I also talked to many of the State and local elected officials in California. The snow pack is within 2 inches of breaking the record.

Senator BOXER. It is what?

Mr. WITT. It is within 2 inches of breaking the record, which means if we get a warmup with warm rains, we could seriously be looking at some damaging flooding. We are trying to get prepared for that and do as much prevention as we can.

The Corps has done a great job out there doing that.

HAZARD MITIGATION GRANT PROGRAM

Senator BOXER. Right.

Mr. Chairman, you talked about the importance of hazard mitigation. I could not agree with you more. I know that this director wants to make mitigation his legacy.

I am concerned in my State, Mr. Chairman, because my State has received a good deal of funding for mitigation, as you know, at the end of every disaster. We have an excellent program to make a certain percentage of the damage available for mitigation.

In my State, it seems to be taking a long time to spend this money. Mr. Chairman, when you are looking at fiscal responsibility, I think we need to see that the States are spending this money in a timely fashion, the mitigation funds. In my State, we are just having a little bit of a hard time.

I wonder, Mr. Witt, if you would support some kind of timeframe in which the States have to spend that money. I know we want to give them flexibility. For example, if we have an earthquake and we get a percentage of that damage, we have already said that we would like to see them use it to mitigate for flooding and other things, not necessarily earthquakes.

What about putting a timeframe on that?

Mr. WITT. Senator Boxer, Mike Armstrong has been working with the NEMA mitigation committee to streamline the process so that rebuilding can be done more quickly.

In addition to that streamlining, we have established a 2-year limit for the States to have the money obligated and the project finished. If they do not have it finished within that 2-year period, then they lose the money.

CALIFORNIA HAZARD MITIGATION GRANTS

Senator BOXER. Thank you.

I have some other questions about seawalls and mudslides, but in the interest of time I will submit those.

My one last question is do you have an accurate number for how much money is still sitting in the State of California from old disasters that they have not yet spent on mitigation?

Mr. WITT. Mike, would you answer that?

Senator BOND. Would you use the microphone and for the record identify yourself and your title, please?

Mr. ARMSTRONG. Mr. Chairman, Senator, I am Michael Armstrong, Associate Director for Mitigation.

In unobligated balances for open disasters, as of the end of January, a total of $459.4 million in hazard mitigation grant program funding remains for California disasters; $417 million of this is from the Northridge earthquake.

Senator BOXER. How many years ago now is that? That was 1991? No; 1994?

Mr. WITT. 1994.

Senator BOXER. So we have these funds sitting there, almost one-half billion dollars, over $400 million since 1994, is that correct?

Mr. ARMSTRONG. That's correct.

TIME LIMIT FOR HAZARD MITIGATION GRANTS

Senator BOXER. Mr. Chairman, I think I am such a fan of mitigation. We have so many things to do. I think the States, just speaking honestly, should have a deadline because there are so many things we could do, such as retrofitting bridges. There are some wonderfully important things that we could do.

I would urge that we perhaps should take a look at setting a deadline.

James Lee Witt, can you do that administratively or do we have to do that legislatively, set a deadline?

Mr. WITT. We have set the 2-year deadline, as I mentioned.

Mike, do you want to respond?

Mr. ARMSTRONG. Again, we have done several things to try to streamline and move along the hazard mitigation grant program. As Director Witt said, we have set a deadline of 2 years for obligation of dollars. We have also streamlined the environmental review process.

Senator BOXER. OK. That's great. But this is 4 years.

Mr. ARMSTRONG. We just instituted the 2-year deadline.

Senator BOXER. Oh. Good.

Senator BOND. Is it a final regulation? Have you gone through the process? Has it been published and commented on?

Mr. ARMSTRONG. It has gone through the regulation process.

Senator BOND. Pardon?

Mr. WITT. It is a regulation.

Senator BOND. And it is now in effect, is that correct?

Mr. ARMSTRONG. Yes.

Mr. WITT. Yes.

Senator BOXER. Good. In other words, are you saying to me is it retroactive or is it just for the future? Where do we stand with this money? In other words, should I call the Governor and tell him to move forward?

Mr. WITT. Let me respond first.

I talked to Dick Andrews when we were in California and I asked him when we could expect to see those mitigation grant projects funded and finished because we are expecting more El Niño events coming in.

He told me that they were prepared to send in 524 grant applications. I notified my staff to make sure that the region was ready to receive and process them very quickly and get them turned around.

I don't think we've received them yet.

Mr. ARMSTRONG. They have a March 9 deadline.

Mr. WITT. To get those in.

Mr. ARMSTRONG. All applications.

Senator BOXER. Holy cow. OK.

Thank you very much. I am getting right on the phone. Thank you.

Thank you, Mr. Chairman.

Senator BOND. Thank you, Senator Boxer.

Senator Mikulski, were there other questions you wanted to ask?

RESULTS OF PREDISASTER MITIGATION EFFORTS

Senator MIKULSKI. Mr. Witt, what do you think have been the results of your predisaster mitigation efforts so far for disaster resistant communities?

Mr. WITT. Senator Mikulski, we have not only saved lives but we have saved property and helped cut disaster costs. There is no doubt about that. I think you have seen that.

The reason I feel Project Impact will make such a difference is because the program operates at the grassroots level in the community. For every dollar we spend on mitigation, we save $2 in response and recovery costs. Predisaster mitigation can save a lot of property.

For the past 5 years, we have all seen devastating disasters like this country has never seen before. I have seen people lose everything they worked all their lives for in the blink of an eye. What is interesting is we are now seeing Governors, like Governor Batt in Idaho, introduce legislation to prevent people from building in the flood plain. We are seeing mayors talk about issuing stiff fines for people building or developing in a flood plain.

Before, we had never seen this type of initiative on the mitigation side. Project Impact is about eliminating the risk before we have the disaster.

I cannot tell you the extent of enthusiasm, interest, and support we have seen for this effort.

SUPPORT FOR PREDISASTER MITIGATION

Senator MIKULSKI. It is important that you have the support of the National Governors Association on this because, ultimately, they are the ones that provide the leadership, particularly in rural areas.

Mr. WITT. Yes; I have met with the Western Governors Association, and they are supporting prevention. Each of the Governors I talk to supports the prevention before we have a disaster.

The interesting thing is that private industry is supporting this very strongly as well. They are actually contributing more to the project in the communities, sometimes 6 and 7 times more, than we are putting into it. So it will make a difference.

We respond and spend money for response and recovery and then do mitigation to prevent the losses from happening again. If we focus on prevention in particularly high risk communities, we are going to save lives, protect jobs, save property, and cut costs. That is the goal of Project Impact. I think we can prove to Congress and this committee that predisaster mitigation works, and we are looking forward to doing that.

TECHNICAL ASSISTANCE FOR PROJECT IMPACT

Senator MIKULSKI. I know that in Maryland, where we have received a modest grant, first of all, the involvement of the private sector has been tremendous—not only with State and local government, the role of Governor Glendening, but the role of the Corps of Engineers in giving us sound advice. So we knew we were going to make wise use of this.

Everything from Kmart to Fidelity Bank, Potomac Dairy Farms to Interfaith Housing has pledged their support to work with you in Project Impact. I think what it has done is to bring the community together before the disaster. The American people will always rise to the occasion at a disaster, but this has been truly community building and I have been very heartened by the role, first, of the private sector.

I feel what we are pursuing is very sound because we have had the advice of the Corps of Engineers.

Where do you want to go or what are you recommending this Project Impact or disaster resistant do for communities? Where is the technical assistance provided so that we really know that we are not just spending money and that it is not just a new form of money to local communities, but that the engineering, the civil engineering, is sound.

Mr. WITT. What the appropriation committees have asked us to do is to establish a blue ribbon panel. We are working now to have a report in to Congress by March 31. It is a peer review panel. The goals of this panel are to support the requests from Congress related to how we are going to go forward, how we are going to allocate the money, and what criteria we are going to use to carry out the program. The panel is going to review and comment on alternative mitigation strategies, and provide FEMA with recommendations.

Senator MIKULSKI. Wait 1 minute. I am lost in the panels, commissions, and things.

Mr. WITT. What Congress has asked us to do is to set up a committee to look at developing a national predisaster mitigation plan that lays out where we are going with this project, how it is going to be developed, and what it is going to do.

Senator MIKULSKI. So we are going to have a commission on this?

Mr. WITT. A committee, Senator. They will be finished with their report by March 31.

OBJECTIVE CRITERIA FOR PREDISASTER MITIGATION

Senator BOND. May I just interject one thing? I want to see the objective criteria on how the projects are going to be selected.

Fifty million dollars is not going to go a long way. I want a credible, objective, readily ascertainable set of criteria that any community, any State, any county wanting to get into it can know that it will be used to judge their project.

As I mentioned to you in our discussions, we want to make sure there are objective criteria and I will expect that on March 31.

I will not be disappointed, will I?

Mr. WITT. Senator, I am not going to disappoint you.

Senator BOND. I want to know how it is being allocated.

Senator MIKULSKI. Senator Bond, I could not agree with you more. I think maybe one of the criteria to consider is that there are sound engineering solutions and that by any objective standard—like in our case in western Maryland, Governor Glendening convened a task force, but it was the corps that gave us the sound engineering solutions. I mean, if you cannot trust the corps, then I am just not sure.

So if you do not have good engineering and it is just kind of make-believe, then I don't think you should get the money.

So you need to have sound engineering. Then perhaps the other criteria is that there be a demonstrated commitment of local support. In that way we know where communities are at the most risk, where are the engineering solutions that could be achieved, what is the cost of achieving those engineering solutions, and is there local support so it is just not a new form of Government money—something along those lines.

I think if we are not on a sound engineering footing, then we don't know what we are going to get for our money.

Mr. WITT. I wholeheartedly agree with you. The Corps of Engineers and we have met and we work very closely together. The Corps of Engineers has been involved in the prevention side right along with us.

Senator BOND. I think Senator Mikulski has given you a good start on the criteria and we will be willing to provide additional money for Project Impact when we have that list of criteria and not before. That is easy enough, isn't it?

Senator MIKULSKI. OK.

Senator BOND. No criteria, no money.

Let me move along.

Are you finished?

Senator MIKULSKI. Sure. I'm happy.

Senator BOND. I have a number of additional questions that I will be submitting for the record.

DAM SAFETY

Senator MIKULSKI. I am ready to talk about dam safety. [Laughter.]

Senator BOND. We would be delighted to show you some of our damn problems. [Laughter.]

Senator MIKULSKI. Oh, I worry about that.

Senator BOND. It is actually a very serious thing, of course.

Senator MIKULSKI. This is like a talk show over here.

First of all, I know it is very serious. We always think of big dams. But throughout many of our communities in our country it is exactly the small and midsized dams that are aging. Many were built during WPA days and are really of grave concern.

Senator BOND. I appreciate your support on that because we do have many of those dams that hold back significant bodies of water. They may not be the great hydroelectric dams which are usually inspected and in which there is a great interest in dam maintenance. But there are still earthen dams with significant bodies of water, communities, activities, and people below them which can be put in danger.

Senator MIKULSKI. Yes; it is scary.

WAYS TO REDUCE DISASTER COSTS

Senator BOND. With the time I have remaining, I would like to go back to the Stafford Act and the legislative proposal for reducing disaster costs.

If the legislation which the administration sent up were enacted, how much do you estimate the Federal Government could save over, say, the next 5 years?

Mr. WITT. Our inspector general and other staff members tried to determine the most realistic estimate based on the recommendations.

Senator, $3 billion over 5 years. It was about $580 million a year, I believe.

Senator BOND. Can FEMA implement some of these proposed changes without legislation? Could you propose a rulemaking in some areas or talk to the authorizing committee to determine the feasibility of making some of the changes through the regulatory process?

Mr. WITT. I have asked our General Counsel that very question. We can do that. We will have to go out to the State, local, private, and nonprofit rural electric authorities, as well as members of Congress, to get comments. Then, based on those comments, we could implement some of the changes.

Senator BOND. We just congratulated you on putting the 2-year regulation limit on mitigation funds. When will we see the regulations coming forth from FEMA? When will you be prepared to propose those for comment?

Mr. WITT. Mr. Chairman, the House is having a hearing on March 26 on the Stafford Act amendments. We will need to see how it goes at that hearing.

Senator BOND. Are you going to await the outcome of that hearing before making any decision on regulatory matters?

Mr. WITT. We can go ahead and be prepared.

Senator BOND. I would think it would be very helpful if you offered specific examples before the authorizing committee and presented that to the authorizing committee in the Senate because I believe, as we look at all aspects of disaster assistance, making sure we can continue to afford disaster relief for people who truly are in need is very important. To do that we must make sure that there are reasonable, defined limits on the money available.

I gather you have already issued a rule disallowing disaster relief for trees and shrubs, is that so?

Mr. WITT. Yes, sir.

Senator BOND. That's bold, very bold.

Mr. WITT. Very bold. [Laughter.]

I took a lot of heat on that one. [Laughter.]

DECLARATION CRITERIA

Senator BOND. OK. I see that votes are supposed to occur in the next 5 minutes.

The Stafford Act authorizes the provision of Federal disaster aid when State and local capabilities are overwhelmed. Again, there is no criterion as to what that threshold ought to be.

At last year's hearing, you testified that you would be submitting comprehensive legislation, including the criteria for disaster declaration. I have heard that even the State emergency managers are looking at the need to establish objective measures that will insure fairness in the declaration process.

I do not recall that your proposed legislation addressed the need for this criterion. If not, why not? Wouldn't it help make sure everybody understands when a disaster can be declared and deal with sometimes the very urgent but often political requests for disaster relief?

Mr. WITT. I agree with you, Senator. We are working with NEMA on this as we work through the reengineering of the public assistance program. Hopefully, we will be able to have that criteria.

Senator BOND. Not hopefully. When will you have it?

Mr. WITT. I will just have to let you know the date, Senator.

Senator BOND. We will be awaiting that information.

MUDSLIDES

I see the vote is occurring. I want to ask just one or two questions.

For our friends from the Corporation for National and Community Service, we have two votes and we will try to vote as soon as we can on the second vote. But there will be some time delay. So I would expect at least 15 minutes of recess when we go over to vote.

On Project Impact, I have already asked questions about the criteria. I will submit others for the record.

On mitigation, this article in the Washington Post described the disaster-rebuild cycle in coastal California in areas susceptible to mudslides, earthquakes. Again, Malibu is one of FEMA's biggest disaster aid recipients for its size, most of it going for infrastructure rebuilding and cleanup.

What is FEMA's role in this problem and how does FEMA's mitigation strategy address the need to look for ways to break the cycle of build/disaster/rebuild/disaster?

What are you doing about that, on the mudslides?

Mr. WITT. We do not fund rebuilding the mudslides. We do help to stabilize a slide if it is a threat to life/safety issues.

Senator BOND. But you do pay relief.

Mr. WITT. Debris cleanup. Yes, sir.

Senator BOND. Well, now, if the mudslides have occurred—and I believe Senator Stevens mentioned that this is not a new phenomenon—is it not appropriate that there be an effective mitigation strategy? We are not going to continue to pay, what is it, 6 out of 7 years that I think we had disaster relief.

Where is the end of that cycle?

Mr. WITT. Malibu and, of course, California itself is a unique situation. They went through the fires in Malibu which destroyed the vegetation on those hillsides. The people and the elected officials of Malibu have taken a very strong stance in favor of mitigation. As a result of the fires in Malibu, they have passed resolutions for homeowners to keep the brush cleared away from their homes. The fire chief now goes out and inspects those.

The residents of Topagna Canyon have even adopted their own predisaster mitigation program.

They have taken a lot of preventative measures.

Senator BOND. But there is a broader need to address the mudslide problems.

Mr. WITT. Yes, sir.

Senator BOND. We all know what the problems were in flood insurance and we have taken many steps to prevent the flood disasters. We have worked with you on that.

For example, according to the article, the President has promised to consider a request for federally sponsored mudslide insurance. I assume that that will be on an actuarially sound basis. Do you know anything about it?

Mr. WITT. I read about it in the paper, too, Mr. Chairman.

Let me follow up just briefly here. We try to work with the States and give them as much flexibility as possible to prioritize their proposed mitigation projects. But the history of landslides in California is something we all recognize as a problem. So to plan better for the future, we are working with the State and USGS to keep the database of historical landslides current so that the State, county, and cities can improve planning and development.

INSURANCE REQUIREMENTS FOR MUNICIPAL FACILITIES

Senator BOND. Speaking of State actions, 3 years ago, FEMA initiated a Performance Partnership Program with the States. So-called PPA's were intended to provide flexibility in exchange for improved accountability, replacing the old stovepipe micromanaged projects of providing preparedness grants to the States.

Can you explain to me what progress has been made in implementing performance partnerships, how the States are held more accountable than in the past—for example, requiring States to hold adequate insurance on municipal facilities?

What is going on in that area?

Mr. WITT. The insurance—I did talk to the State directors when they were in Washington. I have asked the Response and Recovery Directorate to go out to all the States and request that the States report to us once a year on what buildings they self-insure, or have insured, from the State down to the local level, and how much per square feet they are self-insuring or are insuring.

Senator BOND. Mr. Witt, thank you very much. Thanks to your colleagues as well.

ADDITIONAL COMMITTEE QUESTIONS

We will submit additional questions for the record. I hear the master's voice, our bells. With that, the committee will stand in recess.

Mr. WITT. Thank you, Mr. Chairman.

[A brief was recess was taken.]

[The following questions were not asked at the hearing, but were submitted to the Agency for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR BOND

DISASTER RELIEF FUND BALANCE

Question. What is the balance in the disaster relief fund and do you have sufficient funds available to meet obligations for the remainder of the fiscal year, assuming "normal" disaster activity during the balance of the year?

Answer. As of February 28, the unobligated balance in the disaster relief fund was $3,292,412,000. Assuming "normal" disaster activity (i.e., that requirements from disaster activity in the remaining months of the fiscal year are in line with the five year average of obligations less Northridge), there are sufficient funds to meet obligations for the remainder of the fiscal year.

Question. How much do you need to meet all requirements anticipated for fiscal year 1998 and prior year disasters, again assuming normal disaster activity for the balance of the year?

Answer. Using data as of February 28, 1998, FEMA estimates that it will need $1.6 billion in additional resources by the end of fiscal year 1998 in order to meet requirements anticipated for fiscal year 1998 and prior year disasters.

Question. A supplemental was sent to Congress yesterday by the administration, but did not include FEMA funding. Why isn't the administration requesting a supplemental for disaster relief in view of the fact that there will not be adequate funds on hand to meet fiscal year 1998 and prior year requirements?

Answer. FEMA was not part of the Administration's original request for a supplemental. However, on March 24, the Administration requested $1.6 billion in emergency contingency funds to meet FEMA's estimated requirements through September 30, 1998.

FISCAL YEAR 1999 "OFF-BUDGET" REQUEST

Question. FEMA is requesting $2.3 billion in contingency funds for fiscal year 1999. This amount, coupled with your "on-budget" request of $307 million, represents the 5-year historical average cost of disaster relief. According to current projections, your budget request is $1.1 billion short of what is needed to meet anticipated requirements. Why isn't FEMA requesting what is needed to meet anticipated requirements?

Answer. Estimates as of the end of February, which factor in estimated requirements from the El Niño related storms in California and Florida, actually leave an estimated shortfall of $1.5 billion to meet anticipated requirements at the end of fiscal year 1999. This estimated shortfall assumes passage of the appropriation request and the $2.3 billion in contingency funds. However, even using the February estimates, FEMA still anticipates an unobligated balance of $369 million at the end of fiscal year 1999. Because of the magnitude of the contingency fund that would have been requested to meet requirements, the administration opted to request a more conservative amount that should meet estimated obligations.

PRESIDENTIAL TASK FORCE

Question. I understand FEMA is heading up a Presidential task force addressing long-term recovery issues following the Northeast storms. Could you describe the role of the task force and its findings and recommendations on recovery issues?

Answer. The President activated the Long-term Recovery Task Force to assist the States of Maine, New Hampshire, New York and Vermont recover from the devastating ice storm that struck the Northeast in January 1988, and designated me as the Task Force Chair.

In early February the Task Force members met with representatives from each of the States to identify the areas of greatest impact and to determine how the Federal departments and agencies might best assist the individuals, businesses and communities recover from the storm. Based on that information the Task Force identified the following six areas of impact and developed a "Blueprint for Action" to guide the recovery efforts.

—Energy and Infrastructure Losses
—Agricultural Losses
—Damage to Forests and Trees
—Recreation and Tourism Losses
—Health and Safety Concerns
—Special Population Needs

The recommendations in the "Blueprint for Action" generally identify measures that can be taken to ensure that the existing Federal programs provide the assistance needed in each of these areas. Where it appears that there may be a gap in Federal authorities or funding, the report recommends that the Office of Management and Budget and the pertinent Agency further investigate the possible gaps. A copy of the "Blueprint for Action" is attached.

FEMA will take the lead in organizing a meeting with Federal and State recovery officials this summer to both monitor the progress of recovery and better identify any long-term agricultural, forestry or other impacts that may not yet be evident.

Question. In recent years there has been growing interest in earmarking CDBG funds for disaster relief, yet there is no authorized CDBG disaster program, and it appears that CDBG funds could duplicate what is provided by other agencies such as EDA. What is FEMA's role in developing national plans and policies for disaster relief programs government wide?

Answer. The fundamental plan that guides the Federal response to disasters and that ensures coordination of assistance is the "Federal Response Plan." Twenty-seven Federal agencies and the American Red Cross are signatories to this plan. An effort is now underway to update the "Federal Response Plan." This update will include development of a Recovery Annex that outlines how the traditional disaster recovery agencies, including the Department of Housing and Urban Development, the Economic Development Administration and the Small Business Administration, interface and coordinate after disasters.

For extraordinary disasters such as the upper Midwest flooding in the spring of 1997 the President may choose to activate the Long-term Recovery Task Force. FEMA chairs the Task Force efforts and convenes the Task Force members and affected States to coordinate the long-term recovery. The Task Force identifies the programs that can assist individuals, businesses, communities, and States recover, as well as any gaps in programs or funding.

For example, in Drayton, North Dakota FEMA is coordinating with EDA and HUD to develop a project that would remove structures from risk, yet ensure the sustained viability of the community. This project involves potential funding from FEMA to acquire five commercial (one of which houses the County medical clinic) and eight residential structures. The land to be acquired is primarily threatened by erosion, and would become open space. EDA may provide a grant to purchase another commercial building outside the floodplain and convert it into a "mini-mall"/retail office facility. The clinic, as well as the other businesses would relocate to this facility. HUD funding would support bringing the clinic's office space up to current medical codes and standards.

While this is but one example, it shows how the Federal family coordinates the delivery of assistance after disasters to meet State priorities and community needs.

Question. There are several agencies involved in buyouts, including FEMA, HUD, and the Army Corps of Engineers. What is the national buyout plan, why are so many agencies involved, and what are the different roles and responsibilities of the various agencies.

Answer. Removal of structures from the floodplain (referred to as "buyouts") is one element of a multi-hazard approach to reducing the long term impacts of natural disasters on the nation. To achieve these cost-effective projects, several Federal

departments and agencies have authorities that give them the capability to acquire properties. These include FEMA, the Department of Housing and Urban Development (HUD), the Army Corps of Engineers (USACE), and the Economic Development Administration (EDA). While the programs may all support acquisition projects, they are designed to address different needs at the local level, and as such, form the basis for a coordinated acquisition strategy.

FEMA programs have provided funding to acquire over 23,500 flood-prone properties throughout the U.S., and are for the specific purpose of reducing or eliminating future damage and risk to life and property from natural hazards. Under HUD's programs, acquisition can be undertaken for a broader array of purposes including re-housing strategies, urban renewal, economic development, and affordable housing. The USACE primarily funds land acquisition to support large-scale structural flood control, flood storage, and wetlands management projects. Additionally, communities often seek EDA support to ensure their open space acquisition projects do not deplete the local housing stock. These programs operate in tandem providing communities with essential flexibility to meet their hazard mitigation and recovery needs.

An example of how these programs can work together can be found in South Pembina, North Dakota. In this community, FEMA is funding the acquisition of approximately 20 residential structures and mobile homes. The land acquired will be used for open space and recreational purposes. To ensure adequate housing outside the floodplain is available for Pembina's labor force, EDA is providing a grant to develop a 20-site mobile home park, and to acquire land for the future construction of a 24-plex residential apartment structure. The local community is using HUD funding to provide the matching fund requirement under the EDA grant. The availability of differing, yet flexible Federal programs enables communities to satisfy a broad range of disaster recovery and hazard mitigation needs.

Question. An article appearing earlier this week in The Washington Post discussed a Commerce Department initiative called the Natural Disaster Reduction Initiative, which includes grants to communities to encourage economic development officials and emergency planners to train together and improve coordination. What is FEMA's role in this initiative, and how does it relate to FEMA's Project Impact?

Answer. FEMA and the Department of Commerce (DOC) have been involved in discussions about fostering tighter linkages between FEMA's Project Impact and the DOC's Natural Disaster Reduction Initiative. One of the ways in which we hope to work together is through the development of training for economic development officials and emergency planners at the local level on how to work more closely together and incorporate mitigation into economic development planning.

Over the next few weeks, FEMA and DOC's Economic Development Administration (EDA) hope to finalize an agreement whereby EDA will provide the funding and technical assistance to support development of the subject training, and FEMA will utilize its staff and resources at its Emergency Management Institute (EMI) to prepare the course instruction. Under the agreement, FEMA and EDA will work together to offer the training to economic development and emergency planning officials at EMI. The training would also be made available to officials in Project Impact communities on an as-needed basis so that they can strengthen mitigation components of their community and economic development planning. As we move forward, FEMA and the Department of Commerce will continue to identify opportunities for the two agencies to work together through the two respective initiatives.

STATE COST-SHARE WAIVERS

Question. What are the criteria for recommending to the President that the 25 percent state cost-share be reduced, and has this per-capita threshold been closely adhered to in recommending cost-share reductions?

How long has this criteria been in place and when will the updated threshold be implemented?

The Senators from Maine have requested a legislative cost-share reduction for Maine. What is the per-capita damage in Maine? Do you have a position on this request?

Answer. Currently, FEMA's policy is to recommend that eligible Public Assistance disaster costs be reimbursed at 90 percent Federal funding only for those disasters which are of a catastrophic nature and the statewide per capita impact exceeds $64. This criterion has been in place since 1985. The present criteria has consistently been used for all 38 cost share adjustments granted to date with the exception of the August 5, 1997, legislative cost share adjustment for the State of Minnesota (FEMA–1175–DR, the Presidential Disaster Declaration for the Red River flood). In this case, Congress included within the 1998 Budget Reconciliation, Public Law

105–33, which was signed by the President, a 90/10 cost share adjustment for six counties even though the State did not meet the $64 threshold.

The Committee on Appropriations Report 105–53 expressed a concern that FEMA had not updated the standard it uses to determine when to increase the Federal share of disaster costs since 1985, and that the standard was not in regulation. In response to that concern FEMA prepared a proposed rule that would raise the $64 threshold now used to recommend cost-share adjustments up to current dollars, and would adjust that threshold annually. Based on the Consumer Price Index the new threshold would be $100 per capita. However, since this is such a large increase, the rule proposes to raise this threshold over a two-year period, with $80 per capita as the interim threshold. The projected annual cost-savings from this rule is $38 million. The proposed rule was published in the Federal Register for comment on March 5, 1998, with comments due May 4, 1998.

As of March 17, 1998, the Federal obligations for the Maine disaster (FEMA–1198–DR), declared January 13, 1998, is $9,578,002. Based on a 1990 statewide population of 1,227,928, the statewide per capita impact of this event is $7.80. FEMA strives to administer the President's Disaster Relief Fund program in a fair and equitable manner in each disaster.

BUSINESS PROCESS RE-ENGINEERING

Question. I understand you have underway a process to improve and streamline the grants process for infrastructure projects. Could you describe what improvements you plan to implement and what sort of cost savings are anticipated? Do you anticipate FEMA will be able to close-out disasters much faster as a result of the new process?

Answer. The goal of the New Public Assistance Program is to better serve our customers by obligating 50 percent of emergency work funding within 30 days of declaration, obligating 80 percent of permanent work funding within 180 days of declaration and closing 80 percent of disasters within two years. The new program involves four components: people, policy, process and performance. To better serve our customers' needs, our staff must be very knowledgeable about program issues and possess good interpersonal skills. To this end, we are developing a program to credential our staff and to provide more training to our State partners. Secondly, we are simplifying our policies and publishing them in paper and in electronic formats so that our staff, as well as State and local partners can easily access them. This will promote more consistent decision making throughout the program, which will increase customer satisfaction and reduce the number of appeals.

The third component of the new program is process. We are streamlining the process to make it less bureaucratic and more responsive to our customers' needs. We are empowering our staff in the field with authority to make program decisions, which reduces the need for multiple reviews at the disaster field office. Our objective is to provide timely assistance to applicants.

Lastly, we want to provide effective, efficient and consistent assistance to our customers. To help evaluate our performance, we will conduct customer satisfaction surveys after each disaster. Further, we are building critical performance indicators into our process. This will allow us to adjust process components to improve customer satisfaction.

The estimated savings in administrative costs for the New Public Assistance Program will be approximately $9 million annually. We anticipate that 90 percent of the disasters will be closed programmatically within two years.

Question. Last spring FEMA initiated a pilot grants acceleration program for Northridge projects. Is participation more or less than FEMA anticipated? What has been learned so far?

Answer. Participation has been favorable. Of the approximately 120 Subgrantees who owned the approximately 400 eligible projects (generally, at least one large building no more than 75 percent complete), 77 Subgrantees requested offers on at least one facility. As of March 13, 1998, 104 settlement offers were made. Of those, 69 settlement offers were accepted, 16 were rejected, and the balance is pending.

FEMA has worked swiftly since September 1997 to develop professional cost estimates, validate them and convey them to the Grantee/Subgrantees. In addition to those offers already made, FEMA has an additional number of estimates in process. And some Subgrantees have indicated that they intended to request settlement offers on additional buildings after reviewing initial cases.

Levels of interest vary; some enthusiastic Subgrantees have asked for settlements on projects that are not even part of the program; others who opt not to participate prefer the assurance that all eligible actual construction costs will be met by FEMA, as in the current Damage Survey Report (DSR) process. We have found that some

Subgrantees are very pleased with the program. And, in general, we are finding that the Subgrantees prefer the GAP option to the traditional DSR process because they have a reduced administrative burden and know the dollar amount within which they must manage.

Question. The Northridge pilot involves capping settlements up front, with no appeals allowed. Will this concept be applied on a broader basis?

Answer. The cost estimating methodology developed for Northridge and validated for national use, now is being provided nationally as a tool to make better initial estimates of damage costs. However, without statutory change, final settlements on estimates will not be implemented on a larger scale. Because the law currently provides appeal rights on program matters, we do not envision a full-scale implementation of settlements based on estimates without appeal.

PROJECT IMPACT

Question. FEMA is requesting $50 million for the new pre-disaster mitigation program called Project Impact in fiscal year 1999, and received $30 million in fiscal year 1998, most of which has not yet been distributed.

How will FEMA target these grants to areas with the highest risk of disasters?

Answer. In looking for communities in which to pilot Project Impact, we are looking at areas of high risk as one of the critical factors of selection. Indicators we are looking toward to determine high risk include number of disaster declarations and repetitive losses. The way in which the process of mitigation will be applied in each community will be driven by the community culture and vulnerabilities. In addition to any priorities identified at the local level, FEMA will be encouraging the communities to address those problems that directly affect disaster expenditures, such as vulnerable infrastructure.

Question. I understand that Project Impact has never been announced in the Federal Register. Will all local communities nationwide be given an equal opportunity to apply for Project Impact funds?

Answer. The Administration has set a goal of having one Project Impact community in each State by the end of the current fiscal year. We have pilot projects well underway to field-test a new process for engendering an on-going commitment to mitigation in a variety of high-risk communities. As we learn from these first two rounds of designations, we are developing what we expect to be the parameters of a program in the future. Once this is established we anticipate local communities nationwide will be invited to participate as partners in Project Impact.

Question. What role will States play in the selection and implementation of Project Impact grants?

Answer. States are considered to be critical partners to the success of Project Impact. We are counting on the State emergency management agencies to manage a process within the State with all appropriate stakeholders to identify and recommend to FEMA communities that are appropriate for Project Impact. In addition to risk and organizational qualities within the communities, we would hope that the communities recommended to FEMA by the States will fit within the overall strategic mitigation plan and activities of each State.

Question. You have indicated that you would like a Project Impact grant in every State. Are all States interested and are there strong candidate projects in all States?

Answer. Momentum for Project Impact is growing with each passing week. Currently we have communities under consideration in all States. Some of the States have forwarded their recommendations to us; others are still working with our regional offices to determine which communities would be most appropriate.

Question. What criteria does FEMA plan to use to measure the success of Project Impact, and how does FEMA plan to ensure that the appropriate level of outside effort and resources are channeled into the program?

Answer. The success of the Project Impact initiative will be demonstrated by the public and private partnership actions taken by the community that demonstrate lives and property are at less risk from the natural hazards that threaten them.

FEMA is currently developing several methods in which to measure short and long-term risk reduction in Project Impact communities. One effort underway is the development of a systematic methodology to document the processes and implementation of the actions that pilot communities have identified to lessen their future losses from natural disasters. The University of Delaware Disaster Research Center is working with FEMA to conduct an evaluation study, with four specific objectives: (1) to describe the processes through which pilot communities developed their plans and objectives under the Project Impact initiative; (2) to monitor and document the progress pilot communities are making toward achieving their stated goals; (3) to identify factors that encourage successful program development and implementation

in the pilot communities; and (4) to make recommendations and point out factors that FEMA should take into account in implementing the program on a national scale. FEMA will also be looking at specific indicators within each Project Impact community that demonstrate mitigation is working and true risk reduction is occurring.

To ensure that the appropriate level of outside effort and resources are channeled into the program, FEMA will continue to seek support from the Congress, the Administration, national organizations, and the private sector. In addition, we are developing tools and training to assist our employees in fostering partnership approaches in communities as a way to effectively leverage this initiative.

Question. Obviously, every community will not receive a Project Impact grant. What else is FEMA doing to encourage mitigation in communities nationwide? Do you believe additional incentives are needed—such as tying federal disaster assistance or preparedness grants under the cooperative agreement with States—to mitigation?

Answer. FEMA provides a wide range of assistance to communities on a regular basis to assist them in meeting their own risk reduction priorities and needs. This assistance includes the publication and dissemination of guidance and technical materials, the delivery of direct technical assistance on state-of-the-art mitigation measures and practices, providing training and education opportunities, and disseminating mitigation outreach materials for their use within their own jurisdictions. Through FEMA's National Flood Insurance Program, communities have their floodplains mapped to provide local officials with the information they need to develop smartly and in a disaster resistant way. FEMA also provides funding through State and local grants to help localities develop emergency management capabilities, and funds certain high-priority mitigation measures through the Flood Mitigation Assistance and National Hurricane Programs. These types of assistance will continue to be made available to communities interested in promoting mitigation and preparedness activities outside of a Project Impact designation.

FEMA also works with county and local associations, including the National Association of Counties, and the International City and County Managers Association, and others to develop and disseminate mitigation and preparedness information that meets community needs. Partnerships such as these provide valuable support to local efforts to reduce risk.

Despite these types of assistance, FEMA believes that additional incentives are needed if we are ever to have a significant impact with mitigation across the nation. For this reason, FEMA is currently working with the private sector, including the insurance industry, financial institutions, and even officials on Wall Street, to develop additional incentives that can be applied in communities across the country, such as reduced interest mitigation loan products, risk-based community bond ratings, and reductions in premiums or deductibles on hazard insurance. FEMA is working with State and other Federal agencies to leverage resources to promote mitigation activity. Additional incentives are also being pursued within FEMA's existing programs. It is our hope that in the next several years, a multitude of new incentives will be available to assist communities in addressing their own risks and priorities.

HAZARD MITIGATION GRANTS

Question. When will a final rule be published in the Federal Register limiting the timeframes States have for obligating Hazard Mitigation Grant Program (HMGP) funds?

Answer. FEMA does not plan on publishing a final rule in the Federal Register at this time. Instead, FEMA issued policy guidance in December 1997 that reaffirms existing regulations on timelines under the HMGP. The deadlines for States to submit applications remain the same as currently outlined in the HMGP program regulations.

This new policy does, however, place a new deadline on FEMA staff in reviewing project applications in a more efficient manner. FEMA will be required to obligate all funds within approximately 24 months of a disaster declaration. FEMA is working with States to ensure that the regulatory deadlines are met and to provide limited extensions where warranted.

STATE CAPABILITY ASSESSMENTS

Question. This week FEMA released its long-awaited Capability Assessment of the States which we asked for several years ago owing to concern that we did not have a good assessment of State's ability to respond to major disasters. FEMA's report is based on State self-assessments.

Do you really believe self-assessments will establish an accurate, honest picture of capabilities?

Answer. We believe that self-assessments are the most effective option for a number of reasons. First, because we did not tie funding to the assessment results, the States had no incentive to game the assessment in an attempt to gain additional funds. Secondly, States indicated in their responses whether the assessment was based upon real world experience, exercise experience, or whether the specific area being assessed was untested. We believe that the assessment is generally an honest depiction of the State emergency management experience. This is reflected in the detail provided by numerous State responses to the assessment, which in many cases went beyond the scope of the questions, and were self-critical and introspective.

Most States conducted their Capability Assessment Readiness (CAR) reviews with on-site Regional involvement. Some Regions formed CAR teams to partner with their respective States in the process and the assessment. It is FEMA's position that an honest, accurate assessment occurs when there is the opportunity for the partners to be jointly involved in conducting the assessment and reviewing the results.

Question. Why would any State rate itself negatively in any area? How will FEMA validate the accuracy of the assessments?

Answer. States have a vested interest in reviewing their own level of preparedness and correcting deficiencies where identified. The CAR establishes a set of performance criteria that have been accepted by the States as a baseline for performance measurement. Validation of results occurs in the process. The State conducts a self-assessment, then the State and FEMA jointly review that self-assessment face-to-face, and discuss the State assessment; and/or the State and FEMA conduct the self-assessment together to provide a more valid perspective on the status of the emergency management partnership. As a result, emergency management partners mutually develop actions that address areas identified by the assessment as needing improvement, and incorporate actions into the Performance Partnership Agreement and the annual Cooperative Agreement (PPA/CA).

Question. Did the self-assessments include an assessment of the risks faced by the State? If not, how can a State rate it's capability without first assessing what it is preparing for?

Answer. Yes, the assessments included State Hazard Identification and Risk Assessment.

Question. How will these assessments be used? Will the results of the assessments be used to make funding decisions?

Answer: FEMA has embraced several strategies, long and short term, to address the areas needing improvement identified by the CAR process, and to ensure that areas identified as strengths continue to be maintained. These strategies shape the way States and localities utilize grant funds through: (1) Performance Partnership Agreement reviews with the States during fiscal year 1998; (2) emphasis on the State annual Cooperative Agreements; (3) improvement of individual Emergency Management Functions based on State requirements; (4) refinement of the CAR review process; and (5) participation in the development of an accreditation process for State and local emergency management organizations. We do not intend to directly link financial assistance to States based upon the CAR results for fear that this would serve as an incentive to slant results to garner funds, when what is needed is an honest assessment.

Question. Specific areas identified as needing specific improvement included planning for a response to nuclear, biological and chemical terrorist incident; resource management; and coordination between State emergency management agencies and the private sector. What are FEMA's plans to address these important weaknesses.

Answer: FEMA Regions will utilize the CAR results to review the existing State and FEMA Performance Partnership Agreements, revise them as necessary, and negotiate the annual Cooperative Agreements with States to focus on correcting identified areas for improvement. In addition, exercises and training programs will emphasize areas identified as needing improvement.

Question. In your report, it is noted that there were questions about the quality and validity of the results, and that "the initial effort is only a starting point. The process will take time to evolve." What are your specific plans for refining the "capability assessment for readiness?"

Answer: We began discussions with our State partners immediately after completion of the fiscal year 1997 CAR to identify and work on components of the CAR process that could be improved. Workshops with Regions and States have been conducted which focused on reviewing the CAR in support of the Performance Partnership Agreements and the annual funded Cooperative Agreement. The purpose of the workshops was to (1) plan and implement a more effective CAR process for the fu-

ture; (2) identify specific ways to support customers to gain greater value from the assessment; and (3) continue to build the partnership between FEMA HQ and customers in the Regions, States, locals and related public, private and volunteer communities.

The recommendations of these workshops, which involved 57 States and territories and 10 regions, were as follows: (1) refine questions to avoid duplication; (2) weight questions more comparably; (3) develop standard guide for facilitation of joint FEMA/State sessions; (4) refine frequency of assessments; and, (5) perform regional assessments. We will be implementing these recommendations in the next CAR process, and will continue this feedback cycle to ensure that the instrument remains effective and useful for all parties to the process.

STATE AND LOCAL ASSISTANCE

FEMA's budget proposes a cut of $11 million to state and local assistance, and an increase in the state cost-sharing of these grants. The states obviously are quite concerned with this proposed reduction. According to a survey of states, potentially 154.5 positions on state emergency management staffs would be eliminated.

Question. Why is FEMA proposing such a drastic reduction?

Answer. The 1999 request represents an overall reduction of $11,646,000 from the 1998 level, and is related to the Agency phasing out Federal requirements funded by State and Local Assistance (SLA) grants that previously were of higher priority, but no longer warrant 100 percent funding.

The reduction in SLA grants also reflects one of many adjustments made by the Agency to achieve 1999 budget targets driven by the Balanced Budget Agreement. Since 1993, FEMA has absorbed the greater share of budget reductions at the national level or at the expense of other programs, holding States harmless as much as possible until the 1999 budget. For example, funding levels for SLA grants between 1993 actual obligations and the 1999 request reflect a decrease of only 4.2 percent, despite the fact that FEMA's Emergency Management Planning and Assistance (EMPA) appropriation has been reduced by over 20 percent. During the same period, however, overall Performance Partnership Agreement (PPA) grants to States funded from EMPA have increased by 4.7 percent, and now include funding for State Hazard Mitigation Officers and Hazardous Materials preparedness. (For comparability purposes, the Radiological Emergency Preparedness amount is included in the 1999 figure.)

The decision, in addition to helping meet budget targets, begins to transition support for State and local emergency management planning functions to no more than 50 percent in accordance with congressional direction in the Conference Report on the 1996 appropriation and the House Report on the 1997 appropriation. The results of this change will uniformly provide 50 percent funding for emergency management planning positions at State and local levels, and 100 percent funding for emergency management training and planning activities related to hazardous materials incidents.

Question. Were states given fair warning that this reduction was coming, so state legislatures could act to increase state funding?

Answer. In 1995, as part of FEMA's implementation of reinvention under the National Performance Review, we simplified our program structure and devolved management of a number of program activities to the States under Performance Partnership Agreements. Five programs, including three that historically had no cost-share requirements, were consolidated into the State and Local Assistance (SLA) program. Of the resources consolidated into SLA, 75 percent originated in programs that required State and local governments to at least match the amount of the Federal contribution.

FEMA's program guidance for fiscal year 1996, as originally issued in July 1995, specified that all funding provided under SLA would have to be equally matched by the State and local governments. Some States expressed concern that they would not be able to obtain resources from their legislatures to meet this matching requirement on short notice. FEMA then revised the fiscal year 1996 guidance by adding language to the effect that some FEMA funding would be available "* * * without State cost share for fiscal year 1996." This FEMA action was recognized in the Conference Report on the 1996 Appropriation which directed FEMA to continue funding "certain planning positions" at 100 percent as we had in the past, but to plan to reduce the Federal share to no more than 50 percent for fiscal year 1997 and beyond.

FEMA continued working with the States and, in response to their continuing concerns, asked Congress for legislation to permit a consistent 75 percent Federal, 25 percent State cost share for all preparedness programs authorized by the Robert

T. Stafford Disaster Relief and Emergency Assistance Act, as amended. This action was made public in May 1997. During this same time frame, letters were sent to State Governors from the FEMA Regional Directors urging the States to seek the resources necessary to match all SLA funding in fiscal year 1999. While FEMA was unable to provide information regarding the content of the 1999 budget request until such time it was submitted to Congress in the President's budget, we believe that these actions should have made it clear to the States that there was a need for them to seek additional State and local resources for activities funded through SLA.

BORROWINGS

Question. The level of borrowing in the Flood Insurance program is unprecedented. What amount currently is owed Treasury and what are FEMA's plans and timeline for repaying the debt?

Answer. The outstanding borrowing reached $917 million at the end of June 1997. Through repayments, including $72 million in interest, the outstanding borrowing is down to $810 million.

Since levels of flooding are still the critical determinant in repaying the current borrowing, it is not possible to determine with certainty when the repayment will be complete. Through simulation modeling, FEMA has estimated the probability of repaying current borrowing over the next five year period. Based on premium income alone, FEMA has a 16 to 27 percent probability of completely repaying the amount borrowed from the Treasury at some point within the next five fiscal years.

FEMA is submitting a report to Congress which outlines various alternative strategies for repaying the borrowing that could increase the probability of complete repayment within the next five years to 41 to 50 percent.

SUBSTANTIAL DAMAGE

Question. An article appearing in the Baton Rouge Advocate (10/20/97) said "on paper a federal policy known as the '50 percent rule' seems to make a lot of sense. In practice, it might as well not even exist. The rule is suppose to force people to elevate, move, or demolish a house if damages from a flood total more than half its market value. But experts on flooding say the rule is widely ignored." This is costing the flood insurance program millions of dollars in unnecessary flood claims as structures flood, are rebuilt as they were, and flood again. What does FEMA plan to do to ensure implementation of the 50-percent rule? How widespread is this problem? Does the 50-percent rule need to be amended to address repeat flooding, since many houses flood repeatedly with levels too low to trigger the rule?

Answer. The National Flood Insurance Program (NFIP) claims representative (Write Your Own or direct Government business) completes a preliminary damage assessment form during the initial visit to the damaged structure when there is a claim. That form is submitted to the Federal Emergency Management Agency (FEMA) Regional Office, which in turn provides the damage assessment form to the local officials to alert them to the possibility of a substantially damaged structure when they issue the repair permit. During a major catastrophe the NFIP reminds all Write Your Own Companies and the NFIP direct of the requirement to complete the preliminary damage assessment form.

Under NFIP regulations, communities have the responsibility to enforce their ordinances affecting requirements that substantially improved buildings meet Post-FIRM (Flood Insurance Rate Map) construction standards. This includes buildings that have been substantially damaged as well. In developing the National Flood Insurance Reform Act of 1994, it was known that because of the additional costs of reconstruction that are imposed on the property owner, there is a reluctance on the part of community officials, to declare a building to be substantially damaged. To address this, the Act authorized the NFIP to provide coverage for compliance with local floodplain management ordinances. This has been implemented as Increased Cost of Compliance coverage (which is paid by policyholders) and provides up to $15,000 toward the cost of rebuilding to Post-FIRM standards in response to local ordinance requirements. Such ordinances apply to substantially damaged buildings, or where a community has an appropriate ordinance, to repetitively damaged buildings, as defined in the statute. This new coverage was implemented June 1, 1997 for all new policies and renewed policies becoming effective on or after that date.

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM (CSEPP)

Question. FEMA is requesting $46 million for the CSEPP program. Very little detail is provided in the Congressional budget justification describing how these funds will be used. Please provide a detailed description, including a break-out of the

budget request by headquarters, regions, states and the local communities and a break-out of how these funds will be utilized by state and local governments.

Answer. For fiscal year 1999, as in prior years, FEMA's Chemical Stockpile Emergency Preparedness Program (CSEPP) activities will be funded by Army on a reimbursable basis.

The purpose of CSEPP is to help communities enhance existing emergency management systems and achieve the level of preparedness required by this hazard. FEMA is requesting $46M in reimbursable authority for the following:

—Salaries, benefits and travel ($3.5M)—Supports FEMA staff (Headquarters and six Regions) assigned to the program.

—Administrative overhead cost ($422,000).

Technical support for the program includes:

—Planning ($800,000)—support to the CSEPP community (10 States and 39 counties) for development of major software; to assess emergency response plans for compliance with established CSEPP policies and guidance; to implement performance indicator modules to evaluate understanding of CSEPP guidance regarding emergency medical services, public education and information, and post-incident operations; to complete development of CSEPP Planner's Companion series addressing requirements in CSEPP Planning Guidance; and to provide technical planning assistance to States and local jurisdictions.

—Training ($600,000)—develop and support training for such State and county CSEPP training requirements as Risk Communications, ACTFAST, Chemical Awareness, Personal Protective Equipment, Technical Planning and Evaluation, and use of audio-injectors by civilian emergency medical personnel to treat civilians exposed to nerve agents, etc.

—Public Education and Awareness ($425,000)—preparation and distribution of CSEPP public awareness materials and documents, technical assistance to States and counties, and Joint Information Center/System.

—Automated Data Processing (ADP) ($211,000)—continuation of the integration of alert/notification, ADP, and communication systems for jurisdictions not yet equipped, and support for CSEPP ADP system and Federal Emergency Management Information System port maintenance, software license, equipment purchases, operating system upgrade and FEMIS client software suites.

—CSEPP Community Exercises ($1.2M)—Assistance to FEMA and Army Exercise Co-Directors to train, conduct, and evaluate exercises, and develop the Evaluation Exercise Report, revise CSEPP Exercise Program document, and continue to develop interactive exercise scenarios that simulate incident and post-incident conditions and exercise execution of key tasks.

—Exercise Direct Support ($256,000)—Funding to conduct eight CSEPP federally evaluated exercises.

—Implement a Program Performance Monitoring System to assure that system capabilities are in place in the ten CSEPP States and 39 counties at the earliest possible date.

In addition to the above, DOD is requesting $39M that will be provided to the 10 CSEPP States through a Cooperative Agreement as follows: Alabama—$4.9M; Kentucky—$15M; Utah—$5.6M; Maryland—$1.8M; Illinois—$500,000; Indiana—$1.4M; Arkansas—$2.3M; Colorado—$1.8M; Oregon—$4M; and Washington—$1.3M. This funding will enhance State and county emergency capabilities in the following areas:

—Functioning Alert and Notification system for Immediate Response Zones (IRZ) and Protective Action Zones (PAZ);

—Functioning Emergency Operations Center (EOC) for each PAZ and IRZ county;

—Integrated communications systems for IRZ, Joint Information Center (JIC)/State;

—Functioning automated data processing system connecting on-post EOC/off-post EOC/JIC/State EOC;

—Training programs which are consistent with FEMA State Training Plan;

—Exercise program consistent with approved exercise policy;

—Community involvement program for public education and awareness;

—Personnel, such as CSEPP coordinators, public information/affairs officers, planners, ADP specialists to support CSEPP activities; and

—Coordinate plans in conformance with established CSEPP guidance for State. IRZ and PAZ counties.

MT. WEATHER EXPANSION PLAN

Question. What is the status of the Mt. Weather expansion plan? How much is proposed for fiscal year 1998 and fiscal year 1999 to address the $14.9 million worth of projects delineated in the April 1997 Mt. Weather Expansion Plan Report?

Answers.

Status.—In fiscal year 1997, FEMA used $1.7 million on projects identified in the Mount Weather Expansion Plan. The Agency plans additional expenditures of $1.5 million in fiscal year 1998 and $2.1 million in fiscal year 1999. Most of these expenditures are improvements to the existing infrastructure. Details of these projects follow:

Fiscal year 1997

Expansion of the Conference and Training Center was funded in 1997, as detailed in the reprogramming request forwarded to Congress and subsequently approved. The contract was let through competitive small business set-aside procurement in the amount of $1.25 million. Work has begun, and completion is anticipated by September 30, 1998. In addition to the building construction, fiscal year 1997 funds in the amount of $230,000 were spent to expand parking to serve the training facility.

$251,200, part of which was reimbursed from tenants, was spent on the renovation of a building for office space. The project is scheduled for completion May 1, 1998.

Fiscal year 1998

Design for the renovation of Building 230 to provide additional office space is estimated in fiscal year 1998 at $150,000. Construction will be undertaken on this building either at the expense of a new tenant or when sufficient monies accrue in the Working Capital Fund (WCF).

A modular building will be purchased to provide 4,500 square feet of additional warehouse storage at a cost of about $100,000.

Infrastructure improvement projects scheduled for fiscal year 1998 total $1.2 million and include roof repairs ($310,000), Electrical Distribution System upgrades ($200,000), modifications and repairs to Bldg. 411 ($150,000), energy conservation/lighting upgrades ($100,000), fuel tank replacements ($100,000), and other projects of lesser cost.

Fiscal year 1999

Design for the renovation of Building 105 is budgeted at $150,000 for fiscal year 1999. Construction will occur at the expense of a new tenant or when sufficient monies accrue in the Working Capital Fund.

In fiscal year 1999, $150,000 is budgeted to design the renovation of a dormitory building.

Infrastructure improvements included in the fiscal year 1999 WCF spending plan total over $1.2 million, and include paint and carpet replacement ($362,000), roadway resurfacing ($300,000), roof repairs ($166,000), cafeteria facility and equipment upgrades ($150,000), PA system upgrade ($130,000), Water Distribution upgrades ($100,000), and other projects of lesser cost.

QUESTIONS SUBMITTED BY SENATOR CRAIG

STATE AND LOCAL ASSISTANCE

Question. The President's request for FEMA funding eliminates $16 million from 100 percent funded grant assistance programs used for state and local assistance. This vital assistance is replaced with a 50–50 federal-state cost sharing mechanism. The agency's justification, however, notes that these grants are for "improving the capability of state and local emergency management to plan for, respond to, and recover from disasters."

How will the reduction of 100 percent federally funded grants improve state and local preparedness?

Answer. The reduction in 100 percent funding is related to the Agency phasing out Federal requirements funded by State and Local Assistance (SLA) grants that previously were of higher priority, but no longer warrant 100 percent funding. Instead of these Federal requirements, States have more flexibility to design an emergency management program that addresses specific risks to their jurisdiction.

Question. In testimony before the House Appropriations Subcommittee, you indicated that only a couple of states would be seriously impacted by the reduction in 100 percent funded grant assistance. Which states do you anticipate these being?

Answer. At the time of the hearing only two States, Maryland and Texas, had indicated that they would have severe problems with this reduction.

Question. The National Emergency Management Association has identified at least 23 states that have indicated that they will be severely impacted by this reduction. How do you account for the difference?

Answer. Since the Appropriations Subcommittee hearing, I have spoken to several other States that have shared their concerns regarding the reduction.

Question. I am, of course, greatly concerned on this proposal's impact on Idaho. As a former State Emergency Manager, what do you believe will be the impact of this reduction to a county such as Clark County, Idaho, which has a tax base of only 835 people?

Answer. The impact on any particular local government will vary depending on how the State decides to deal with the reduction. Our best estimate of the percent decrease in SLA funding for the State of Idaho is 12.5 percent. The SLA program is only one source of FEMA assistance to State and local governments. We do not believe that the redirection will fundamentally damage the capacity of State and local governments to meet the needs of disaster victims.

Question. Is it not the case that this reduction is merely a shift of preparedness costs to state and local communities?

Answer. The reduction in 100 percent funding is related to the Agency's phasing out Federal requirements funded by SLA grants that previously were of higher priority, but no longer warrant 100 percent funding. Instead of these Federal requirements, States have more flexibility to design an emergency management program that addresses specific risks in their jurisdiction.

Question. To your knowledge, have state legislatures provided appropriate funding to compensate for this change? What of those states with biennial budget cycles?

Answer. It would appear from the results of the National Emergency Management Association survey that not all State legislatures have provided compensatory funding for their emergency management programs. States that heeded the information provided with the 1998 cooperative agreement guidance have anticipated the shift away from 100 percent Federal funding, and are prepared for this change. States that have relied on the 100 percent Federal funding associated with Cold War program activities would have a more difficult adjustment to make. However, they should also benefit in the near future from improved support at the State and local levels and increased certainty about roles and goals of their emergency management organizations.

Question. Wouldn't states and local communities be better prepared to accept this new responsibility if it were to be phased in over time?

Answer. The situation varies from State to State. It appears that more than half of the States are prepared for this change. Most understand that they must take primary responsibility for developing capabilities for State and local preparedness and response for all but the most catastrophic disasters.

Question. In addition, I question the wisdom in diverting this money away from emergency preparedness. What other FEMA programs would be increased as a result in this change?

Answer. The reduction in SLA grants reflects one of many adjustments made by the Agency, including the elimination of all 1998 congressional add-ons, to achieve 1999 budget targets for EMPA driven by the Balanced Budget Agreement. The request does include an increase of $2.1 million to address health and safety deficiencies and Americans With Disabilities Act (ADA) requirements at FEMA-owned facilities.

Question. Would you be willing to fund the 50–50 grant program at the same level now used to fund the 100 percent grants? Or, in other words, could we not double the number of projects covered through this fund if these monies were not cut and the cost sharing mechanism implemented?

Answer. Since 1993, FEMA has absorbed the greater share of budget reductions to the Emergency Management Planning and Assistance appropriation at the expense of programs other than State and Local Assistance, thus holding the States harmless as much as possible. In order to fund SLA 50 percent at the current level of SLA 100 percent, FEMA would be forced to further erode those other critical programs. The availability of additional Federal funds, however, may be a moot point, since States may have difficulty in meeting the cost share requirements of the 50 percent program.

AMERICAN INDIAN AND ALASKA NATIVE POLICY

Question. If FEMA were to enter into separate partnership agreements with each tribe in a state, would funds currently used for state and local assistance programs be reduced from that state to pay for the separate agreements with the tribes?

Answer. At this time, we have no plans to develop Performance Partnerships Agreements with each tribe in the states or change procedures on how they participate in FEMA's programs. FEMA's Native American policy focuses on building relationships with tribes and Alaskan native villages to better respond to their emergency management needs and problems. We intend to build these relationships in cooperation with States and not at their expense.

Question. How will FEMA determine who is and who is not an American Indian for the purpose of providing assistance under the Individual Assistance Program?

Answer. The new policy will not change FEMA's current procedures or criteria for determining eligibility under the Individual Assistance Program. FEMA programs help all needy citizens and qualified aliens in the disaster area who meet eligibility requirements. We do not discriminate based on race or ethnic origin.

Question. What will be the total fiscal impact to states and local communities as a result of FEMA entering into separate agreements with the tribes that may be located in a state?

Answer. Since the new policy focuses on building relationships, we do not anticipate entering separate Performance Partnership Agreements with the tribes that may be located in a State.

AD HOC PANEL ON A NATIONAL PRE-DISASTER MITIGATION PLAN

Question. I'm pleased to know that the Partnership for Natural Disaster Reduction (PNDR), located at the Idaho National Engineering and Environmental Laboratory, in my State, is on your panel helping develop (the National Pre-disaster Mitigation) plan. Can you tell me how things are progressing and when we might expect to see your plan?

Answer. Attached is a copy of the plan, based on the recommendation of the Ad Hoc Panel, which is also attached. The panel worked diligently and kept on schedule through its agenda of study and review. They clearly had a very difficult assignment, but they accomplished a great deal in a short amount of time. The Plan will be submitted by your March 31 due date.

QUESTIONS SUBMITTED BY SENATOR MIKULSKI

PROJECT IMPACT

Question. What are some of the initiatives of Project Impact?

Answer. Project Impact is an initiative designed to help communities identify their risks, assign priorities, and take action today to reduce disaster losses tomorrow. The principles upon which Project Impact is built include:

—The key to promoting pre-disaster mitigation is in finding ways that result in community implementation.

—More is accomplished through partnerships.

—Local ownership of the concept promotes a process that becomes part of local culture and responds to the needs of individual communities.

—Members of a community are interdependent, so an interdependent approach must be implemented.

—Cultural change in communities can be supported by Federal leadership, but should not be dependent on Federal funds.

—The initiative should enhance community sustainability.

—Federal funds should leverage mitigation into community decision-making and resource allocation.

—This effort should not become a new Federal program—it should be a new way of doing business.

Seven pilot communities were selected in 1997 to demonstrate the development of Project Impact within various communities. By September 1998, FEMA's goal is to designate at least one Project Impact in every State, and to engage at least 500 businesses.

We believe that the implementation of these principles in Project Impact communities will foster "Best Practice" initiatives worthy of duplication and recognition across the Country. We also believe that, over time, the successes of Project Impact will replicate themselves, and that incentives to reduce risks will be commonplace. We believe that a local demand for mitigation will drive local decision-making. Most

importantly, we believe that disaster costs, property loss, and human suffering will be reduced as a direct result of Project Impact's efforts.

Question. What tangible initiatives have been implemented with respect to the Program [Project Impact]?

Answer. Project Impact was established, in part, to overcome the acknowledged barriers to effective mitigation. It looks for ways to increase incentives, focus Federal leadership, provide flexibility at the local level, build motivation, and apply existing technology and research. These types of barriers are being addressed in the seven pilot communities. Of the seven, five have already signed formal agreements with FEMA and other principal partners. FEMA is actively engaged in building partnerships, facilitating the identification of priorities and providing technical assistance.

Private sector partners have joined to support the effort and provide incentives. The number of participating partners continues to grow. Examples of some of the current partners include: Merchants and Marine Bank, Washington Mutual Bank, Home Depot, General Electric, SAFECO Insurance, Barnes and Noble, Chevron, Promus Hotel Corporation, Bell South, Lowes Home Improvement Centers, and Pacific Bell.

Numerous Federal agencies (including the Department of Education, the Small Business Administration, the Economic Development Agency, the Department of Transportation, and the United States Geological Survey), voluntary agencies, and community-based organizations are participating. In addition, an aggressive outreach and education initiative is ongoing.

Examples of specific activities being undertaken in the pilots include:

—In Deerfield Beach, Florida, funds are being used to put hurricane straps on the auditorium and cafeteria of the local high school, which serves as a shelter during a disaster; and, installing wind shutters on all the high school windows.

—In Pascagoula, Mississippi, the Merchants & Marine Bank announced it would provide below-market rate loans to qualified borrowers to take steps to protect their properties.

—In Seattle, Washington, funding will support a locally-driven home retrofit program; landslide and seismic vulnerability mapping projects; in addition, the City's schools will receive funding to further improve safety through the removal of a variety of nonstructural hazards.

—In several locations, Home Depot is offering product knowledge courses to help homeowners and builders better understand disaster resistant construction.

In addition, national-level relationships are being developed with private sector organizations, private non-profits, professional associations, and Federal agencies. Discussions with Wall Street and financial institutions are ongoing to create new incentives for risk management to be reflected in financial decisions. States are establishing similar initiatives on their own.

Question. Is this year's budget needed to get the project off the ground, or will it be used to fund additional cities and initiatives?

Answer. The fiscal year 1998 budget is being used for three primary purposes. Given that in fiscal year 1997 we received an appropriation of $2 million, we are using some funds in fiscal year 1998 to augment the seven original pilots. Second, we will be using monies to provide grants to another round of communities to be designated, given that we are looking at at least one community in each State, fiscal year 1999 funds will be necessary to finish the communities we designate in this calendar year. The third category of expenditures is for developmental costs to get the program off the ground. For example, the development of training or public education materials and evaluation activities.

Question. How will this program "impact" and benefit people?

Answer. The Project Impact initiative was developed to challenge individuals, businesses and government entities to implement mitigation measures before a disaster. Project Impact will benefit people in both designated communities, and people in communities who implement the principles of Project Impact on their own. Predisaster mitigation has a systemic benefit. The engagement of the civic community creates ancillary benefits to the community whether or not there is a disaster in the near future. Pre-disaster mitigation contributes to sustainable and economic development today. In the aftermath of a disaster, the reduced or eliminated damages to critical facilities, infrastructure, businesses and homes due to pre-disaster mitigation provides substantial direct and indirect benefits to people throughout the community. For example, people benefit from:

—Reduced home repair costs due to damage prevention,

—Increased reliability of road systems and lifeline services (e.g. water, sewer, and electricity),

—Stable utility rates because companies do not need to raise rates to cover damage costs,
—Reduced inconvenience of locating alternative child care arrangements due to day care or school facility damages, and
—Reduced damages to businesses that threaten economic stability and employment.

In the Project Impact pilot communities, people are already benefiting from a number of initial actions. For example, in Seattle, people are able to attend courses on how to perform seismic retrofitting for their homes. They are able to borrow from the community tool library the tool necessary to perform the retrofitting. The tool libraries have received support from Washington Mutual, SAFECO, and the Boeing Employees Good Neighbor Fund.

Question. What is the status of FEMA's attempt to get the program authorized?

Answer. FEMA submitted legislation in the first session of the 105th Congress to amend the Stafford Act. Included in that legislation is specific pre-disaster mitigation authorization. The legislation, S–1007, has been referred to the Environment and Public Works Committee.

Question. Where are communities in the early stage of developing partnerships with the private sector?

Answer. Partnering with the business community is a critical part of the Project Impact initiative. Communities need to come together in partnership to identify the community's hazards, identify what can be done about those hazards, prioritize the actions, and obtain public support to take the actions. Business partners can provide the resources for the identified actions. Through outreach activities, FEMA is encouraging private sector involvement in local mitigation.

Over 50 businesses have joined Project Impact in the seven pilot communities to date. Building partnerships is an ongoing effort; therefore, the pilot communities are at different stages of developing these partnerships with the private sector. Seattle, for example, has identified over 30 businesses and leveraged $6 million; Deerfield Beach, Florida, has organized a "Business Alliance" committee of local business leaders which meets monthly in support of Project Impact activities. FEMA's goal is to obtain 500 business partners by September 1998.

Question. What is FEMA doing to help communities foster public/private partnerships?

Answer. The purpose of FEMA's Project Impact initiative is to challenge the country to undertake actions that protect communities, businesses, and individuals by reducing the effects of natural disasters. FEMA has undertaken a nationwide awareness campaign to demonstrate the benefits of hazard mitigation through a partnership approach and an outreach effort to businesses and communities to become disaster resistant. Project Impact serves as a catalyst for communities to form partnerships and spotlights partnerships to create a network for sustained momentum.

FEMA is encouraging private sector involvement in the seven pilot communities through meetings with local Chambers of Commerce and businesses. We are literally knocking on doors and inviting the local business community to become part of their community's mitigation effort. On a national level, relationships are also being developed with private sector organizations, especially at the corporate level. The Director has met with CEO's of large national companies and hopes to have 500 business partners join the Project Impact initiative this year. In addition, discussions with Wall Street and financial institutions are ongoing to create new incentives for risk management to be reflected in financial decisions.

Question. What is the incentive for the private sector to cooperate in this program [Project Impact]?

FEMA believes that incentives for businesses will be accepted and successful if related to their bottom lines. We are working to foster an appreciation with the business community that they need to address risk reduction for themselves, their employees, and their community. Businesses need to prepare for disasters in order to increase the likelihood that they will survive and recover from disasters. Companies need to protect their own facilities; however, they also need to ensure that their employees are protected, so that they do not become disaster victims themselves. Employees need to get back to work as quickly as possible so that companies can get back to business.

Businesses should also get involved in their community because they have a stake in it. It is important to realize that businesses rely on the same services from the community as do individuals, and private sector recovery may be dependent on public sector recovery following a disaster. Therefore, the private sector has a common interest in reducing the risk to local infrastructures, which are necessary for the continued operation of businesses. Participation in Project Impact also provides the

private sector an additional means to obtain recognition for their involvement in the community.

The seven Project Impact pilot communities have been selected to demonstrate the economic benefits of pre-disaster mitigation to state and local governments, businesses, and individuals. FEMA hopes to have 500 business partners by September 1998.

Question. How will you judge the success of the program, barring any disasters that may occur during your analysis time period?

Answer. The success of the Project Impact initiative will be demonstrated by the public and private partnership actions taken by the community that demonstrate lives and property are at less risk from the natural hazards that threaten them.

FEMA is currently developing several methods in which to measure short- and long-term risk reduction in Project Impact communities. One effort underway is the development of a systematic methodology to document the processes and implementation of the actions that pilot communities have identified to lessen their future losses from natural disasters. The University of Delaware Disaster Research Center is working with FEMA to conduct an evaluation study. The study has four specific objectives: (1) to describe the processes through which pilot communities developed their plans and objectives under the Project Impact initiative; (2) to monitor and document the progress pilot communities are making toward achieving their stated goals; (3) to identify factors that encourage successful program development and implementation in the pilot communities; and (4) to make recommendations and point out factors that FEMA should take into account in implementing the program on a national scale.

FEMA will also be looking at specific indicators within each Project Impact community that demonstrate mitigation is working and true risk reduction is occurring. These indicators include:

—Comparison of how disasters impact Project Impact communities before and after the community implements Project Impact actions.
—Comparison of how disasters impact Project Impact communities versus non-Project Impact communities.
—Research on how people view mitigation in Project Impact communities before the activities are taken and in specified time increments after the activities have started.
—Research on how people in non-Project Impact communities view mitigation.
—Research on the behavioral changes in Project Impact communities and in non-Project Impact communities. For example, are people in a Project Impact community doing more, are they more aware of mitigation and what are they doing to reduce their own potential damages from disasters.
—Indicators of the awareness level of hazard and risk among community officials and community residents.
—Indicators that the Disaster Relief Fund expenditures have or will be reduced based on mitigation actions taken within Project Impact communities.
—Community adoption of higher codes and standards for any hazard.
—Development of a mitigation plan or incorporation of mitigation provisions into the community's comprehensive or land use plans.

Question. Will you build off the 16 case studies cited in your smaller report issued last year?

Answer. FEMA will soon be publishing a second report on the costs and benefits of natural hazard mitigation; however, the focus will be different from the first volume prepared last year. This second volume will highlight successful mitigation measures undertaken by the private sector. Each case study in this second volume will illustrate how hazard mitigation measures are cost effective and can help the private sector maximize the reliability of service and minimize the costs of repairs and lost revenues following disasters.

A third report, currently in the planning stages, will focus on community pre-disaster mitigation "success stories" (i.e., effective pre-disaster mitigation measures accomplished by local governments). We have already started collecting case studies for this project, and hope to have this volume completed sometime next fiscal year.

FITNESS FOR DUTY/PREPAREDNESS TRAINING

Question. How will the cut in SLA affect local governments ability to be prepared against the serious threat of terrorism and the use of weapons of mass destruction?

Answer. The reduction to State and Local Assistance should not impact FEMA's current level of support provided for State and local anti-terrorism training and exercising. The part of SLA that is specified for use in counter-terrorism projects ($1.2 million) remains budgeted for that purpose.

INSTITUTIONALIZING REFORM

Question. What is the status of the task force on disaster cost savings?

Answer. The task force was established to explore options on disaster cost savings and to produce a report to Congress. Its tasks were accomplished and the group was dissolved. Implementation of cost savings measures and development of legislative proposals were assigned to various organizations within FEMA.

Question. Where are you with re-engineering the factors used to judge severity, magnitude, impact and procedures for conducting Preliminary Damage Assessment?

Answer. FEMA has developed a series of 26 Essential Elements of Information (EEI's) that are used as factors in determining the severity and magnitude of impact of a disaster and the status of response operations. These EEI's are incorporated into appropriate operational documents and associated training activities. We are currently in the process of reviewing these EEI's in coordination with the other Federal Departments and Agencies that support us under the Federal Response Plan.

In order to collect appropriate data, FEMA utilizes predictive modeling, remote sensing and aerial reconnaissance, rapid needs assessment teams, and/or Preliminary Damage Assessment (PDA) teams.

The rapid needs assessment capability was developed to rapidly deploy (within 12 hours of activation) and conduct a rapid assessment of the situation to determine potential requirements for Federal resources in the event of a catastrophic or near-catastrophic event, such as Hurricane Andrew. The PDA teams are designed to be self-sufficient for up to 72 hours and are supported by our Mobile Emergency Response System (MERS) Detachments. Logistical support packages are maintained at Denton, TX, Bothell, WA, and Thomasville, GA. The teams are staffed with representatives from the U.S. Army Corps of Engineers, the Public Health Service, the American Red Cross and the Environmental Protection Agency. An Urban Search and Rescue representative designated by FEMA is also part of this capability.

Question. What other disaster criteria have you established for the Agency with respect to what triggers your involvement, how much should FEMA pay for and once the emergency is over, what business are you in (i.e., rehab, restoration or re-engineering)?

Answer. The primary considerations in making a declaration are factors such as severity, magnitude, and the impact of the event. Governors must certify that an event is beyond the combined capabilities of the State and local governments. In evaluating the impact, FEMA considers many factors and considers each request on its individual merits. Some of the factors are listed below.

—Amount and type of damage: number of homes destroyed or with major damage;
—Impact on the infrastructure of affected areas or critical facilities;
—Imminent threats to public health and safety;
—Impacts to essential government services and functions;
—Available resources of State and local governments;
—Dispersion or concentration of damage;
—Level of insurance coverage in place (for homeowners and public facilities);
—Assistance available from other sources (Federal, State, local voluntary organizations;
—State and local resource commitments from previous, undeclared events; and
—Frequency of disaster events over recent time period.

FEMA reimburses eligible applicants for eligible damage in accordance with 44 CFR Subparts G and H on a 75 percent Federal/25 percent non-Federal cost share basis. The Stafford Act provides for the repair and restoration to pre-disaster condition of facilities damaged as a result of the declared incident.

Question. Has the final rule on limiting the number of appeals from three to two been published?

Answer. The publication of the final rule reducing the levels of appeal from three to two is imminent. The proposed rule was published on November 24, 1997, and comments were due by January 23, 1998. Since that date, FEMA has carefully considered the comments and prepared the final rule for publication. It now is being circulated for internal coordination prior to publication.

Question. Did the rule include who would bear the financial burden of that appeal?

Answer. The final rule does not contain the provision requiring grantees and subgrantees to separately track and account for all costs to prepare and process appeals. There was considerable disparity in the recommendations that commenters made regarding appeal costs. In the interests of instituting the new appeals procedure as soon as possible, FEMA removed the cost provisions from the final rule.

Question. What additional streamlining have you done to the program since last year's hearings?

Answer. The Northridge Grant Acceleration Program and the groundwork for the New Public Assistance Program have been the focus of streamlining efforts in the past year. In addition, FEMA has made significant progress in streamlining the Hazard Mitigation Grant Program in the past year by:

—Introducing a Managing State Concept for discussion with our State partners. Under this policy concept, which we are currently pilot testing, States assume virtually full responsibility and authority for program implementation, reserving those actions required of FEMA by law.

—Placing Environmental Officers in nine of the ten FEMA Regions, seven of which have authority to review all required documentation relating to the National Environmental Policy Act.

—Making Hazard Mitigation Grant Program (HMGP) funds available state-wide for all new disasters declared after April 7, 1997. In addition, States were given the opportunity to amend older disasters to allow for a one-time retroactive application of state-wide funds. These actions allow States greater flexibility in the use of funds by targeting areas with the most significant need of mitigation measures.

—Clarifying existing timelines under the HMGP, which includes a 24-month deadline for FEMA to obligate funds for all disaster declarations.

—Allowing States additional flexibility in using unspent 50/50 cost-share funds for the purpose of hazard mitigation planning.

—Publishing a notice in the Federal Register outlining our intent to decrease the number of allowable appeals under the HMGP and Public Assistance programs. Based on the public comments received on this rule, FEMA will reduce appeals from three levels to two levels.

—Awarding State management costs under the 15 percent HMGP ceiling, thus reducing program expenditures. Previously, management costs were awarded outside of the HMGP ceiling.

Question. What has been the effectiveness and cost-savings to the streamlining that occurred last year?

Answer. The Northridge Grant Acceleration Program provides a model for an improved approach to construction cost estimating but is not considered part of the Business Process Re-engineering initiative (now known as the New Public Assistance Program). The projected administrative cost savings on the $116 million of Northridge final settlement cases were over $11.5 million dollars as of March 13, 1998. While an evaluation of construction costs savings cannot be completed until actual costs of rebuilding can be compared to the settlement figures, an early evaluation of customer satisfaction established the Grant Acceleration Program as a desirable alternative to the traditional Damage Survey Report process. The evaluation of the effectiveness and streamlining of the New Public Assistance Program await its implementation in fiscal year 1999.

The primary savings to the HMGP process has been achieved through a reduction in the amount of time it takes to identify, review and approve projects. This time savings not only provides improved customer service to applicants for grant awards, but it also reduces administrative and staff-related expenses associated with carrying out the HMGP program.

The impact of this time reduction has been dramatic. At this point in time, it takes an average of 1 month for FEMA to complete an environmental review compared to 6 months prior to delegating authority to the Regions. Similarly, allowing mitigation money to be used state-wide has permitted States to address their mitigation priorities prior to the occurrence of a disaster, thus shortening the amount of time needed for States to identify appropriate projects for funding when one occurs. These types of streamlining improvements have produced significant economies and cost savings for FEMA, the States, and applicants.

Question. What are the projected cost-savings of any streamlining to be done?

Answer. A recent internal Agency study pointed out that if we streamline our Public Assistance (PA) Program and achieve a mere 1 percent improvement we will save at least $11 million annually. Use of quality trained staff will lead to faster recovery for applicants and communities. It is estimated that if we close Disaster Field Offices (DFO's) within 24 months of the declaration, we will be able to achieve from 10–50 percent savings in administrative costs or as much as $8 million to $40 million a year.

The lack of consistency in training and operations resulted in an excessive recovery period. Better-trained staff will minimize improper eligibility determinations, which have impacted administrative costs through an increase in Congressional and appeal activity. With knowledgeable staff that is working through a well-documented program, we will be able to provide improve customer service and reduce Congressional inquiries, appeals and negative media attention. Many issues that

have been raised to Congressional or appeal level were caused by either a miscommunication between the applicant, the State and the PA staff or by misinterpretation of policy.

The amount of funding made available under the HMGP is established through legislative language in the Stafford Act; therefore, the amount of funds expended for HMGP projects will remain the same. However, economies and efficiencies achieved through streamlining will permit more and better mitigation projects to be approved in less time. For instance, it is anticipated that the reduction in appeal levels will also reduce the amount of State, local, and FEMA time and associated costs incurred preparing and reviewing appeals. Additionally, measures being taken to provide States more flexibility in the use of mitigation funds give States (as the administrators of the HMGP) greater flexibility in the planning process of identifying areas with the greatest need for mitigation. This should improve the quality of applications, and further reduce both time and cost of administering the HMGP process.

In addition, the inclusion of State management costs under the HMGP ceiling will promote the more efficient management of the program by the States and result in cost savings of up to 10 percent of disaster costs associated with State administration of the program.

NATIONAL DAM SAFETY PROGRAM

Question. What tangible safety measures have been taken by these task forces or boards that would insure the safety of people who live near the 55 high hazard dams in Maryland, and high hazard dams in other states?

Answer. The National Dam Safety Program, as authorized by Public Law 104–303 is a non-structural hazard mitigation program. Tangible dam safety measures are taken by Federal and State dam owners/regulators upon their acceptance and implementation of criteria for viable dam safety programs which reduce the risks to life and property from dam failure. These criteria are established in the Association of State Dam Safety Officials' (ASDSO) Model State Dam Safety Program (FEMA 123, Apr 87). One tangible measure evidenced so far is an increase in the number of States eligible for Community Rating System (CRS) credit points under the National Flood Insurance Program which uses the criteria. States eligible for credit points in 1998 was 38, as opposed to 25 in 1991. Maryland is included in both the 1991 and the 1998 CRS counts. The 1998 CRS list is the bench-mark from which future improvement will be measured. All States have the opportunity to meet the criteria by 2002 and it is FEMA's goal to help them achieve it.

Question. Have effective emergency warning plans been put in place for these and other high hazard dams?

Answer. States are making progress toward meeting the requirement for Emergency Action Plans (EAP), including coordinated warning plans for all high and significant hazard potential dams. However more still needs to be done. A report from the 1992 National Inventory of Dams (NID) update indicated that 17 percent of these high hazard dams had EAP's. In response to the 1992 statistic FEMA developed an emergency action plan training program for all dam owners which is now being delivered by the Association of State Dam Safety Officials (ASDSO) in all States, except Alabama and Delaware (these States currently do not have viable and funded dam safety programs, and as such, receive no FEMA assistance). The 1996 NID report indicated 25 percent now have EAP's. The statistic regarding EAP's will surely improve with the next NID update report.

Question. Why was the budget cut from $2.9 million to $1.5 million in the budget request, and what will be the impact of this cut?

Answer. FEMA's 1999 budget request eliminates all 1998 one-time congressional add-ons. In the case of dam safety, this resulted in a decrease of $2.9 million, offset by an increase of $1.5 million in 1999.

RESPONSE TO BIOLOGICAL/CHEMICAL ATTACKS

Question. What is your assessment of how effective the interagency linkages are within the Senior Interagency Coordination Group?

Answer. Since November 1996, FEMA has chaired the Senior Interagency Coordination Group (SICG). The SICG functions as an interagency forum to identify, discuss and resolve issues involving terrorism-related programs of the member agencies. Membership includes the Department of Defense, the Department of Energy, the Department of Health and Human Services, the Department of Justice, the Environmental Protection Agency, the Federal Bureau of Investigation, and FEMA, as well as the Department of Agriculture, the Department of Transportation, the General Services Administration, and the National Communications System. Terrorism-

related activities such as the Nunn-Lugar-Domenici Domestic Preparedness Program, exercises and other training initiatives have been discussed at SICG meetings to ensure uniformity and consistency in the delivery of Federal training programs to State and local officials. FEMA will continue to work with the other departments and agencies to facilitate interagency coordination on these important programs and activities.

Question. What is consequence management and what exactly does that entail with respect to biological terrorist incidents?

Answer. Consequence management includes measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorism. In the case of a biological terrorist incident, consequence management would initially focus on measures to deal with health-related aspects of the situation. This would include the identification and tracking of victims suffering immediate or longer-term consequences from agent exposure, as well as managing the large numbers of potentially contaminated victims, including the disposition of human remains. A significant consideration for any response activity is to protect the responders. Consequence management also includes assistance to help the affected area recover from the effects of the incident.

Question. What will FEMA accomplish with the $6.8 million it is spending on Terrorism-Related Initiatives in fiscal year 1998?

Answer. In fiscal year 1998, FEMA received a total of $6.8 million for terrorism-related planning, coordination, training and other activities. It includes $1 million for Federal consequence management planning and coordination, as well as special events planning, enhanced interagency planning and continued implementation of the Rapid Response Information System (RRIS); $1.8 million to support State and local emergency training and exercises, including $1.2 million in grants; another $2 million in grants to the fire community for specialized training in Weapons of Mass Destruction (WMD) operations; and $2 million for terrorism-specific upgrades of FEMA facilities, including security equipment and enhanced guard support.

Question. What is your assessment of the current capabilities at a Federal, State and local level to respond to biological terrorist incidents?

Answer. As the capability of the local government to deal with the immediate effects of an incident is essential to the success of any WMD response, enhancing or building and maintaining the local capability with trained and adequately equipped responders are key components of a viable national terrorism response capability. In 1996, the National Governors Association (NGA) surveyed 26 States (22 provided inputs), selected because they have large urban areas within their jurisdictions that could make them targets of a terrorist incident. A Capability Assessment for Readiness (CAR) survey conducted by FEMA involved a comprehensive self-assessment (involving over 1,000 characteristics or attributes) undertaken by 56 States, territories and insular areas regarding their preparedness and response capabilities across the spectrum of emergency management functions.

The two surveys concluded that States have the basic capabilities in place to effectively respond to disasters, but may require more specialized capabilities for WMD response. A biological threat poses the most formidable challenge for most States. Most States indicated that they lack proper equipment to detect biological agents and/or lack protective equipment to provide properly equipped and trained medical response elements to such an incident.

Findings from FEMA's assessment of government preparedness include the need for improved planning and coordination and better Federal interface with State and local authorities in planning for and developing a mutually supportive terrorism response capability. Also, the need was identified to prioritize the use of the transportation infrastructure to ensure rapid movement of critical, time-sensitive response resources. In responding to an incident, the need was identified to deal with a large number of victims impacted by a WMD terrorist incident, including the identification and tracking of victims suffering immediate or longer-term consequences from exposure to NBC materials, as well as the requirement to manage the large numbers of potentially contaminated victims and/or the disposition of human remains. A significant need also was identified to protect all responders and to ensure the availability of specialized equipment and coordinated training for WMD response.

Question. What will be the follow-up at the local level after the Domestic Preparedness Program training is complete in the 120 cities selected?

Answer. At least for the 120 cities addressed by the Domestic Preparedness Program, part of the rationale for taking a train-the-trainer approach was to leave each city with a cadre of instructors. FEMA recommends that follow-on training be institutionalized under the existing State and local training infrastructure, to include po-

lice academies, fire academies, and other training facilities, and that training eventually reaches beyond the initial 120 cities.

FEMA's two training arms, the National Fire Academy (NFA) and the Emergency Management Institute (EMI), make courses and course materials available to States. NFA, in particular, has a number of delivery systems. NFA delivers up to nine courses (including its Emergency Response to Terrorism curriculum) in each of the 50 States. It has also offered train-the-trainers in its Emergency Response to Terrorism curriculum for the 50 States and 150 metropolitan area fire services that participate in the Training Resource and Date Exchange (TRADE) group.

This is but one example of how the Federal Government can support the State and local training infrastructure. Other departments and agencies also have training programs for different constituencies. We understand there are a number of proposals under consideration within the Department of Defense on how to sustain the Domestic Preparedness Program training, and we will continue to work with the interagency community to develop that strategy.

Question. What is your assessment of the unmet needs to prepare States and cities to respond to a biological attack?

Answer. Biological agents pose a unique challenge to first responders, in that they may be more difficult to initially detect or characterize and to determine the extent of the spread of the agent. Many first responders lack proper equipment to detect biological agents and/or lack protective equipment to provide properly equipped and trained medical response elements to such an incident. In addition, there is a need for continuing, specialized first responder training regarding the use of the appropriate personal protective equipment for the various biological agents; management of victim and family assistance in a mass casualty event; medical management considerations, including the need to inform primary care facilities in and around an affected area rapidly to allow hospitals, clinics and other facilities to better prepare themselves to deal with large numbers of potentially contaminated victims; triage and decontamination procedures using available medical resources to include dealing with immediate and long-term treatment issues; and multi-agency and multi-jurisdictional training and exercising to clarify roles and responsibilities and improve interoperability of plans and procedures.

Question. Will there be the necessary local funding for equipment and trained personnel to continue to keep the localities prepared?

Answer. Some equipment in the form of training sets is being provided by the Department of Defense to selected cities as part of the Domestic Preparedness Program initiative. In fiscal year 1998, the Department of Justice also received some $12 million to provide equipment for first responders. The FBI, in conjunction with other agencies, is developing criteria for allocation of these funds for equipment purchases. The initial funding in fiscal year 1997 to support development of the Metropolitan Medical Strike Teams (MMST's) also provided some equipment for first responders; however, there have been no follow-on appropriations to allow MMST's to maintain their operational capabilities and other team overhead costs, such as maintenance of member certifications, medical screening for team members and other expenses associated with maintenance and logistics support for the response capability.

Question. How are we capitalizing on the unique capabilities of other agencies such as the CDC and agency personnel in the Federal government response planning (community)?

Answer. The Department of Health and Human Services (DHHS), through its MMST system concept, is encouraging the development of local concept of operations plans. The development of such plans is an integral requirement of the contract that was signed with the 25 major cities developing MMST's. An Interagency Coordination Group composed of FEMA, FBI, EPA, VA, DOD, DOE, and DHHS conducted multiple meetings in developing the requirements of these contracts. This Group will continue to review the pharmaceutical and equipment requirements in addition to the plan development. A major requirement of the plan is to address the integration of Federal resources with those of the local community, once Federal assistance arrives. These local plans will be integrated with the overall FBI CONPLAN for Federal terrorism response operations now under development.

Although DHHS has considerable resources within, it would rely upon several other Federal agencies for key support assets in providing a Federal medical emergency response to a city. These would include the following:

—DHHS would work closely with the FBI, acting as the lead Federal agency in a terrorist attack. This would occur both during the crisis and consequence management phases of the incident.

—FEMA would coordinate the Federal consequence management response, with the Federal health and medical response led by DHHS under Emergency Support Function #8 of the Federal Response Plan (FRP).

—The Department of Defense (DOD) would be a central Federal agency in dealing with rapid response. DOD would provide specific technical assistance and deployment of personnel, as required. The Chemical Biological Defense Command (CBDCOM) would provide response in a chemical attack, and the U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID) and the Naval Medical Research Institute (NAMRI) would do the same for a biological attack. If extraction and decontamination resources are required, the Marine Corps CBIRF can be employed, as can many other units located throughout the United States. In addition, DOD would support the National Disaster Medical System (NDMS) response component with patient evacuation and the transportation of DHHS responders, the definitive care component of NDMS, and augmentation of supplies of appropriate pharmaceuticals and antidotes.

—The Department of Veterans Affairs (VA) would support DHHS in providing a major portion of the definitive care component of NDMS and the primary maintenance and provision of appropriate pharmaceuticals and antidotes for both chemical and biological attacks.

Question. What is being done to insure that the public heath officials and facilities at the local and State (level) are trained and properly equipped to identify and respond (to) biological agents?

Answer. An effective medical response to a Weapon of Mass Destruction (WMD) incident in the United States requires the appropriate preparation and development of capabilities of all levels of government and their effective coordination and integration in response to a threatened or actual release of a WMD agent.

The first level of response is at the local level, particularly Emergency Medical Service (EMS) responders. The local plans and capabilities are critical, and enhancement efforts in partnership with the Federal government need to be continued. A multi-department effort, enhanced by Nunn-Lugar-Domenici initiatives, is improving the capabilities of first responders throughout the United States in dealing with a WMD incident resulting in mass casualties.

The second level of response is at the State level. This can include assets of the National Guard with capabilities to deal with some WMD effects.

The third level of response is at the Federal level. FEMA has the lead role for consequence management in the event of a WMD incident. Under the Federal Response Plan, Emergency Support Function (ESF) #8 has the responsibility for coordinating Federal medical resources to support local health systems in providing the initial and definitive care to victims of an attack. There are several initiatives directed at enhancing local capabilities using the National Disaster Medical System (NDMS). In 1997, four national medical response teams (NMRT's) were trained and equipped as a part of NDMS to be able to provide specialized services in the incident community, including decontamination, triage and initial care. Their capabilities can also include technical advice to local hospitals or decontamination and care external to local hospitals in the event those services are required.

Other initiatives have been identified to deal with the care of victims after the initial response to include enhancing surveillance and laboratory systems at the Centers for Disease Control and Prevention and the Food and Drug Administration; improving interfaces with nationwide poison control centers; and enabling the Agency for Toxic Substances and Disease Registry to develop and maintain a registry of exposure and develop/maintain on-line data bases. Other activities are focusing on maintaining a stockpile of specialized antidotes, vaccines, and pharmaceuticals that are not usually produced or stockpiled in order to treat individuals exposed to chemical or biological WMD agents; and addressing overall logistical support requirements.

Question. How involved is the CDC in working with local and State officials to provide training to public health officials in the identification of biological agents?

Answer. Although there are no direct training courses provided to public health official in the identification of biological agents by Centers for Disease Control and Prevention (CDC), the Center is a participant in the Department of Health and Human Service's (DHHS) review and coordination of the biological and medical training aspects of the Nunn-Lugar-Domenici Domestic Preparedness Program. Additionally, the CDC is involved on a daily basis with public health officials throughout the country in response to their queries on matters such as these.

Should a terrorist incident involving biological agents occur, the CDC would fulfill a key role within DHHS in providing extensive technical expertise and assistance to Federal, State and local officials as part of the Federal government's overall re-

sponse efforts. In these circumstances the DHHS Office of Emergency Preparedness (OEP) has lead responsibility to coordinate health and medical related activities.

Several other operating divisions within the OEP are available to provide medical support to local and State officials in the event of a terrorist incident involving WMD, including the Agency for Toxic Substances and Disease Registry (ATSDR), the Food and Drug Administration (FDA), the Health Resources and Services Administration (HRSA), the National Institutes of Health (NIH) and the Substance Abuse and Mental Health Services Administration (SAMHSA). These operating divisions can provide the technical assistance as required during the crisis and consequence management phases of a WMD incident.

Question. What public and media relations efforts will be implemented in the event of an incident to mitigate widespread panic?

Answer. An interagency public affairs group, led by FEMA and with representation from other key Federal response agencies has been meeting over the past several months to develop appropriate mechanisms to coordinate release of immediate emergency information to the public and the media during a terrorist incident involving Weapons of Mass Destruction (WMD). The collective efforts of this group will result in development of a guide for use by Federal public affairs officials that is intended to accomplish the following:

—Provide for the timely, accurate, and coordinated release of emergency information to the public and the media that will focus on saving lives, protecting property, and mitigating any public panic or chaos during potential or real WMD terrorist incident.

—Avoid compromising law enforcement efforts that are critical to the capture and prosecution of the perpetrators of any such WMD incident.

Key elements of this Federal interagency guide for public and media relations' efforts in response to a domestic terrorism incident include:

—Immediate and continuous involvement by public affairs officials from Federal crisis and consequence management agencies, in Washington DC, and at the scene of the incident. The focal point for cross-leveling and coordinating the release of emergency information among the agencies will initially be established within the operational command center of the lead Federal agency.

—Delivery to the public and the media of real-time expert technical safety and handling information on the suspected WMD agents or weapons.

—Delineation of procedures for the establishment of a Joint Information Center (JIC) at or near the incident site to support the lead Federal agency's activity on-scene.

The Emergency Information Guide is expected to be completed in the near future.

ALLEGANY COUNTY/WESTERN MARYLAND

Question. What lessons were learned by FEMA in its work with the Western Maryland Flood Mitigation Task Force that could be used for other communities across the country?

Answer. A significant factor in the selection of Allegany County, Maryland as a Project Impact Pilot Community is directly related to the success of the Maryland Governor's Flood Mitigation Task Force for Western Maryland in coordinating recovery and mitigation efforts of Federal, State and local governments as well as the private sector.

In the aftermath of two 1996 Presidential disaster declarations (January flooding created by rapid snowmelt conditions and, subsequently, Hurricane Fran), applicants found the multitude of sources and types of available disaster assistance overwhelming and confusing. In response to their concerns, the Task Force was developed in order to provide a comprehensive forum in which all State agencies met collaboratively to:

—Exchange views and identify areas of mutual responsibility and duties.

—Optimize limited disaster recovery resources.

—Decide on the best agency to handle each aspect of the disaster recovery effort.

The successes of the Task Force efforts were evident in several respects: the disaster recovery process was significantly clarified and simplified for disaster victims; a timely and cost-effective response and recovery process was achieved; and mitigation efforts were incorporated in the disaster recovery process.

Allegany County's selection as a Project Impact Pilot Community will assist the County in maintaining the momentum of the initial Task Force successes and initiatives. Through the development and successes of this public/private partnership Task Force, a primary lesson learned is that there needs to be an immediate coordination of all elements involved in the recovery process under a strong leader. The

State of Maryland will be incorporating the concepts learned from this endeavor in any future response to large-scale disasters within the state.

These Task Force concepts and methods can be applied to other communities across the country to effect a timely and cost-effective recovery effort. In fact, the President convened successful Federal recovery task forces following 1997 Presidential disaster declarations in North Dakota and Minnesota as well as the 1998 New England ice storms.

Question. Can the process of public/private partnerships that has been used in the Allegany County Project Impact effort be used as a ''best practices'' model?

Answer. We believe that any public/private partnership that is viable is the ''best practice'' for that community. One of the goals of Project Impact is to encourage and affirm positive behavior. As the initiative matures and more lessons are learned, we will be looking for positive behaviors to highlight not only in Allegany County but in other Project Impact communities as well.

Question. What is FEMA planning to do to further aid the Allegany County efforts?

Answer. We are fortunate in Allegany County that we can build on a process that was initiated by the Western Maryland Mitigation Task Force. We are working to facilitate the evolution of that process into a long-term, locally driven public/private partnership.

One of the tenets of Project Impact is that mitigation is a local issue, and best addressed by a local partnership that involves government, business, and private citizens. Thus our involvement will be dictated by agreements and decisions made by that partnership. As a partner, we are offering technical assistance in a variety of areas such as hazard identification, risk assessment, and business contingency planning. We are coordinating with other Federal agencies active in the area. FEMA is also providing a grant for a mitigation project that can be showcased as a demonstration of long term mitigation activity. We view this partnership as an evolving relationship and anticipate that additional opportunities for our involvement will become apparent over time.

QUESTIONS SUBMITTED BY SENATOR BOXER

MUDSLIDES

Question. Landslides continue to be a real concern for California, can you give me your response to the President's proposed FEMA policy change toward landslides?

Answer. There has been no policy change toward landslides; however, we have developed a simplified summary of the landslide policy that is being used in California. Because of the landslide and related problems that characterize the current disaster (FEMA–1203–DR–CA), FEMA and the California Office of Emergency Services (OES) are working together to provide the maximum amount of assistance and funding available by law. Pro-active actions being taken include:

—The simplified (but not modified) summary of the FEMA landslide policy is being disseminated at applicant briefings. The present landslide policy has remained essentially unchanged since it was initially promulgated in 1984, but as with all policies, it is periodically reviewed to ensure it is clear and applicable. FEMA recognizes that, at times, the policy may have been subject to restrictive interpretation, and its intent and meaning may not have been clear to the applicants.

—We have formed a Landslide Working Group of trained geo-technical specialists to provide timely assistance to FEMA/OES/applicant inspection teams in initial site stability determination. In cases of differing opinion between FEMA and the applicant, FEMA will provide funding for an independent analysis.

—These geo-technical specialists also are available to assist in the determination of whether or not an immediate threat exists to health, safety or improved property, and provide information necessary to ensure immediate funding.

—We are utilizing to the fullest extent the technical resources of the United States Geological Survey (USGS), which has the most knowledge of landslide phenomena in California.

—We are using initial estimates to provide immediate funding for emergency work to assist those applicants who have suffered significant financial impacts.

I can assure you that FEMA is providing landslide-related disaster assistance throughout California to the fullest extent possible by law. For example, FEMA recognized the need for and immediately approved funding for Sonoma County to engage the services of a geo-technical firm to monitor slide activity in Rio Nido for safety reasons. Immediately thereafter, FEMA mission assigned the USGS to install

monitoring equipment and train contract geo-technical specialists to assist the County in the monitoring activities.

Question. Is there a possibility that landslide insurance can be made available for individual homeowners under a national insurance program?

Answer. The possibility relies in large part on the exploration of complex and difficult public policy questions. For example, the issue related to landslide insurance for homeowners, as with other natural hazard insurance, is not only the availability, but also the affordability of it. In a policy context, the affordability question becomes a question of subsidy—that is, in order to make available insurance that is also affordable, is the taxpayer willing to subsidize actuarially expected loss? This is especially true for existing homes. Spreading the pool of risk purchase might allow some subsidy, in the form of artificially increased insurance premium rates in areas of lower risk, but it is very difficult to accomplish the purchase of natural hazards risk in low hazard areas on a voluntary basis.

Background Information on Landslide Policy

The FEMA landslide policy was initially written in 1984, and was reviewed and reissued in 1995. The Stafford Act allows FEMA to provide funding for repair and restoration of facilities damaged by a declared disaster; however, it recognizes that FEMA cannot fund repair and restoration of a damaged facility on a site known to be unstable. If a site is stable, then FEMA provides funding in accordance with the Stafford Act and implementing regulations. If FEMA determines a site to be unstable, and the instability was caused solely by the disaster, the cost to repair or restore the facility, and the ground necessary to adequately support the facility (including cost-effective stabilization measures) is eligible for FEMA funding. Should the instability result from an identifiable, pre-existing condition, it is the responsibility of the applicant to stabilize the site. Once this has been accomplished, funding for repair of the facility is eligible. FEMA cannot be expected to provide Federal funding to repair facilities on sites that are known to be unstable; that is not an appropriate use of Federal funds. The goal of the Agency is that this policy, like all others, will be applied uniformly and consistently throughout the country.

The Stafford Act limits FEMA funding of permanent repair to certain eligible facilities. Neither the Stafford Act nor implementing regulations define hillsides and natural slopes as public facilities. Thus the permanent repair of landslides, which is not integral to the restoration of an eligible facility, is not eligible for FEMA Public Assistance. This applies regardless of whether or not there is a pre-existing condition. In those situations where an immediate threat exists, FEMA will fund cost-effective protective measures, regardless of the existence of a pre-existing condition. However, it is necessary for FEMA to determine whether slope instability is pre-existing before restoring a facility, because FEMA's implementing regulations require an eligible item of work to be as a result of a major disaster event.

PROJECT IMPACT

Question. Out of the $5 million, FEMA has supplied Oakland with a technical services and support grant of $679,000. The city itself has committed $169,750 and has passed a $50 million general obligation bond measure to purchase fire fighting equipment and an alert warning system for the public.

Have you seen any impact during this year's storms from the Project Impact program in Oakland?

Answer. Oakland's Project Impact initiative was formally started at the Memorandum of Agreement (MOA) Signing Ceremony on January 23, 1998. Since the Signing Ceremony, the City government, community groups, the private sector, and other partners have been working to implement the Project Impact MOA. For example, a meeting between local financial institutions and the Small Business Administration will convene in April to form a loan committee, which will offer mitigation loans and grants to homeowners and small businesses. Applications will be due in the spring and the first loans or grants will be awarded in the summer.

In addition, two existing City programs offering loans and grants for home maintenance and security bar retrofits will be consolidated into the Project Impact program. The "Christmas in April" program will be repairing and retrofitting 10 homes against earthquakes, with the assistance of volunteers from all over the City. "Spring Break" activities on April 6–10 and April 13–17 will have student volunteers conducting non-structural, multi-hazard evaluation and mitigation in 5 housing projects, totaling approximately 385 residences. They will also provide preparedness information to residents and collect vital tracking information on the residents (mostly low income, elderly, and/disabled).

The $50 million general obligation bond measure, approved by voters in 1992, was for capital improvements and equipment for enhanced emergency mitigation, pre-

paredness, and response. The bond monies were used to: purchase fire fighting equipment and an alert and warning system for the public; retrofit fire stations; provide handicap accessibility for the City's temporary shelter sites; construct a new dedicated emergency operations center and Police and Fire communications centers; and develop a computerized emergency management system.

Several of these improvements were used in fighting the storms caused by El Niño, including the following:

—A radio system (530 AM dial) has been used to give warnings on advancing storms and where and how to obtain sandbags;

—Radios given to amateur radio groups were extra "eyes and ears," reporting on downed power lines, fallen trees blocking roads, and landslides;

—A radio system (800 MHz) for the schools was used for communication during emergencies;

—A "Maintain the Drains" program cleared out storm drains so that flooded waters could flow freely and not be blocked, causing more flooding;

—Pumps bought for the Fire Service were used to pump water out of flooded homes; and

—A partially installed computer system, with GIS mapping capability, was used to pinpoint incident sites including landslides, debris clearance sites, etc., which were used by Federal, state, and local personnel on damage survey reports.

Through Project Impact and because of its emphasis on "partnership," Oakland's private sector and community groups are reaching a new level of participation beyond what has been accomplished with the initiatives funded by the $50 million bond or our grant. According to the Director of Emergency Services for the City of Oakland, the activities and potentials generated by Project Impact have been a significant factor in several businesses deciding to stay in the community. We expect to be able to document additional risk reduction success stories in Oakland as the Project Impact initiative matures.

SEA WALL ISSUE

Question. Is there a change in FEMA policy towards the construction of the sea walls?

Answer. There apparently is some confusion about the project for which FEMA is providing assistance in the City of Pacifica. Along the shore in front of the City, there was an existing publicly owned rip-rap revetment constructed for the purpose of protecting property by dissipating the energy of the sea waves. El Niño storms caused very high and strong wave action that destroyed portions of that revetment. The strong wave actions then began eroding sand and lower rock layers of the cliffs upon which a portion of the City is constructed. This led to the collapse of the upper portion of the cliffs, resulting in extensive damage to private property. FEMA deployed two geo-technical specialists to the area, and their report indicated there was a high probability of continuing erosion, therefore, endangering additional private property, as well as public infrastructure. In accordance with the provisions of the Stafford Act, FEMA provided funding for emergency repairs to the previously existing revetment. FEMA is not constructing a sea wall, but rather providing emergency protective measures to reduce an immediate threat. There is no change in our policy toward the construction of sea walls. Although this revetment is not actually a "sea wall," sea walls would be eligible for repair just as is any other item of public infrastructure which was damaged as a result of a declared major disaster.

CORPORATION FOR NATIONAL AND COMMUNITY SERVICE

STATEMENT OF HON. HARRIS WOFFORD, CHIEF EXECUTIVE OFFICER

STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. The committee will come to order.

Senator Mikulski has other commitments which make her unable to join us for this segment. But she will have questions for the record as will our other colleagues.

I now welcome our former colleague, Senator Harris Wofford, the Chief Executive Officer of the Corporation for National and Community Service and those accompanying him this morning.

Senator Wofford will be testifying on the President's fiscal year 1999 budget request of $499.8 million—we might as well go ahead and call it $500 million—for the Corporation for National and Community Service, an increase of $74 million over the fiscal year 1998 level of $425.5 million.

I particularly am interested in understanding the current status of the Corporation's financial management of its programs as well as understanding the current status of the corporation's programs, and the new initiatives, such as America Reads.

With that, we are fortunate to have our light system in place. It has returned, finally, from recess.

With that, Senator Wofford, if you would, please proceed.

STATEMENT OF HARRIS WOFFORD

Mr. WOFFORD. Thank you, Mr. Chairman. I think I can finish before the 5 minute light.

Senator BOND. All right. If you will submit your statement, we will take your full testimony for the record. Of course, it will be made available to all committee members.

We welcome your comments.

Mr. WOFFORD. Thank you.

My written statement goes into detail about our progress on many fronts, including the growth and accomplishments of national service, our work in disaster response, the success of our education awards only initiative, our plans to increase our contribution to children's literacy, known as America Reads, and our collaboration with Habitat for Humanity and other leading nonprofit and faith-based organizations, as well as our successful efforts to cut costs and carry out the important agreement with Senator Grassley.

Thanks to your support, national service has never been more effective in helping to solve problems in America's communities.

However, my oral testimony today will focus on our management and auditability, a primary concern for this committee, for the Corporation, and for me.

The immediate challenge is to produce auditable financial records. Our objective is an unqualified opinion on our fiscal year

1998 financial statements. We are determined to reach that objective.

We have corrected a great majority of the specific problems identified by prior auditors. We have also made many other improvements to strengthen overall management of the Corporation. But we still have work to do.

PLAN TO PRODUCE AUDITABLE FINANCIAL RECORDS

To complete the job, we have enlisted the active assistance of the top management team at the Office of Management and Budget. Together, we have drafted a plan and a timetable. Our action plan covers five broad areas.

First, improving record keeping of the National Service Trust is crucial. We have already consolidated the staff and centralized the functions of the trust within the Office of the Chief Financial Officer. Now the most important step is to install a new digital imaging system, to enter new enrollments and to clear up discrepancies related to old records. This system will be online this fiscal year.

Second, in cash reconciliation, we have made major changes to assure the accuracy of our financial records. We have made software improvements and established an automated link between our financial system and the external systems that handle the obligations and expenses of grantees.

By August of this year, we will be reconciling cash to each of our two appropriations on a timely, monthly basis and clearing identified items in a timely manner.

Third, in the critical area of grants management, we have significantly improved the way we track and monitor grant funds. We have increased controls over grant obligations and implemented new procedures for accrual of expenses.

By April, we will have in place procedures to review grantees' records of AmeriCorps members' service hours. We will incorporate these procedures into the next cycle of program visits beginning later this spring. We are also establishing new practices to strengthen our record keeping regarding grant receivables and payables, which will allow us to better track funds owed the Corporation following audits.

Fourth, in the area of budget and funds control, we have instituted a procedure to protect against overobligation of grant funds. No grant is issued until it is physically entered into the general ledger by the accounting staff. We are working under the limitations of our current information management system. We will permanently solve this problem when we install a new financial management system in fiscal year 1999.

Fifth, as other financial controls, we are issuing new policies with respect to a range of functions, including procurement, payroll, and enhanced oversight of budget commitments.

Mr. Chairman, we are going over this plan of action that we have developed with the help of our OMB colleagues. We are going over it very carefully with OMB, which will be an active partner with us in its implementation, and we will be doing so with our inspector general.

We will submit a detailed and realistic plan to you by March 18 and will report to you on our progress on every part of that plan every 60 days thereafter.

REQUESTS OF THE COMMITTEE

To carry out this plan in a timely manner, we also need your help. We need full funding of our request for administrative funds. Once you have had the opportunity to review the plan, we would like to work with you to obtain reprogramming flexibility to address critical needs of the Corporation, especially the management issues I have discussed today.

Solving these management problems is essential to the effectiveness of our programs, whether building Habitat homes, tutoring children to read, running afterschool programs, or assisting victims of disasters. AmeriCorps members and the people they serve depend on our success in achieving and maintaining sound management of the Corporation.

With our continued focus and your continued support, I am confident we will reach the level of excellence that we all seek.

Thank you, Mr. Chairman.

[Statement follows:]

PREPARED STATEMENT OF HARRIS WOFFORD

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to appear before you to review the achievements of national service over the last year, and to respond to your questions about our programs and proposed budget.

The total fiscal year 1999 budget request from the Subcommittee for programs authorized under the National and Community Service Trust Act is $499.3 million, an increase of $73.8 million over the fiscal year 1998 appropriated level of $425.5 million. The amount requested will support traditional national service programs as well as those that are part of the America Reads initiative to insure that every child can read well and independently by the third grade.

These funds will provide for approximately 48,000 AmeriCorps members through grant programs and the AmeriCorps Challenge Scholarships—our education award only program—as well as approximately 1,100 AmeriCorps members through the National Civilian Community Corps (NCCC) program. Participants in the AmeriCorps*VISTA program, funded through the Subcommittee on Labor, HHS, Education, and Related Agencies, will bring the total to approximately 56,000 AmeriCorps members.

In addition, we are seeking an appropriation of $3 million from this Subcommittee for the Office of the Inspector General (OIG).

OVERVIEW

My written statement for the record today covers three sets of issues.

The first section, Auditability—our number one priority—addresses what we have done to work towards achieving auditability of our financial statements and our plan of action for improving management controls.

The second section, A Review of National Service 1997–1998, discusses the new service initiatives: America Reads; the AmeriCorps "Education Award Only" program; the National Service Scholarship Program (for High Schools); The Houses that Congress Built plan; The Martin Luther King Day of Service; and the State and Local Follow-up to the Presidents' Summit for America's Future. It also includes updates on the major national service programs, including AmeriCorps and Learn and Serve America, and AmeriCorps Program Demographics.

The third section discusses the Corporation's compliance with the Government Performance and Results Act and the proposed Reauthorization of the National Service Programs. Finally, it discusses four further challenges on which the Corporation requests the Subcommittee's assistance: Full Funding of Program Administration; the Flexibility to Transfer Funds Between Activities; the Support for the Fifth AmeriCorps*NCCC campus; and the Need to Lift the Cap on AmeriCorps National Direct Grants.

I. AUDITABILITY

Last year, I indicated that we expected to have 97 of the 99 items cited in the Corporation's 1996 auditability study completed and appropriately addressed by the time the Inspector General conducted her review during the spring and early summer of 1997. That auditability review showed that the Corporation had fully addressed 72 items. However, we fell short of the goal I stated in last year's hearings. The auditability review found 21 material weaknesses and reportable conditions that had not been fully cleared. Since that report, we have successfully addressed 10 of these 21, have made significant and sustained progress on seven others, and have begun to address the remaining four. In the review, both the Office of the Inspector General and Arthur Andersen stated that the Corporation had demonstrated a commitment to correct the deficiencies and weaknesses.

Our efforts on these auditability issues and our activities to establish strong financial management focus on five areas: (1) the maintenance of the growing number of paper records related to enrollments in the National Service Trust; (2) the timely reconciliation of cash; (3) improvement of controls over grants management; (4) improvement of budget and funds control; and (5) improvement of general financial control. We have had much success in each area. With important assistance from the Office of Management and Budget (OMB), we have developed a specific action plan with a timeline to remedy the remaining weaknesses identified in the July, 1997 review and to provide the basis for obtaining an unqualified opinion on the Corporation's Financial Statements for fiscal year 1998. We will be reviewing it with OMB and the Inspector General over the next week and expect to submit it to the Subcommittee by March 18, 1998.

The first area is the maintenance of the growing number of paper records related to enrollments in the National Service Trust. We will use digital imaging technology, which we expect to have in place in the current fiscal year, to enter new enrollments and aid in the resolution of any historical problems related to older records. This use of imaging technology will ensure the accuracy of AmeriCorps members' records for the future and facilitate the prompt correction of past errors.

The second area of major effort is the timely reconciliation of cash. In our plan, remaining auditability items related to cash reconciliation will be successfully addressed by the end of August of this year. Interagency charges represent a special challenge. The timely posting of interagency charges is being addressed by OMB as part of a government-wide solution to the problem of an antiquated system for such charges. We will be among the first agencies to take advantage of new capabilities when OMB and the Department of the Treasury bring on-line the new capacity to identify sub-elements of interagency transfers.

In the third area, grants management, we are improving the accuracy of Trust records by enhancing our oversight program. By April, we will have procedures in place to assess grantee record keeping systems for AmeriCorps members' service hours and we will incorporate these procedures into the next cycle of program site visits. In addition, we are establishing practices to strengthen our record-keeping regarding grant receivables and payables, such as better recording and tracking of funds owed the Corporation following audits.

With regard to the fourth area, budget and funds control, we will purchase and implement a new financial management system that will provide the capability to record commitments and obligations, thereby substantially increasing the effectiveness of controls. Meanwhile, we have adopted new procedures that protect against the over-obligation of grant funds.

Improvement of other financial controls is the fifth element in our plan. This includes, among other things, strengthening procedures for ensuring the accuracy of VISTA stipend payments and improving financial reporting.

While we continue to address these items, we have also made other important changes. Enhancements to our accounting and Trust systems have improved system security and data. We have issued policies and procedures for various financial management activities. New job descriptions have been written. Job duties have been segregated across our major financial functions. The staff supporting the operational activities of the National Service Trust have been consolidated into a single organization to improve management control.

II. A REVIEW OF NATIONAL SERVICE 1997–1998

NEW SERVICE INITIATIVES

America Reads

For fiscal year 1998, this Subcommittee appropriated $25 million to the Corporation to conduct activities designed to ensure that every school child can read well

and independently by the end of third grade. These activities come under the "America Reads" program and are funded within the AmeriCorps*State program.

These funds go through the Governor-appointed State Commissions on National and Community Service for allocation to local school-based or community-based literacy programs utilizing AmeriCorps members. We decided to give States the flexibility of two application dates recognizing that they are at different stages in developing these "America Reads" initiatives. We have received the first fourteen proposals for this new funding, and will receive additional proposals in May. Between AmeriCorps*State and AmeriCorps*VISTA, we anticipate funding over 3,000 new AmeriCorps members who will begin their work this summer and fall as organizers, leaders and participants in these local literacy programs.

Among the priorities for this new funding are proposals that expand successful demonstration programs that involve national service in improving children's literacy, respond to commitments by key state officials such as the Governor and Chief State School Officer, and use AmeriCorps members to mobilize volunteer reading tutors and partners.

Even as we distribute this new money, national service is already at work in children's literacy. There are 83 programs funded through this Committee that utilize AmeriCorps members to improve child and family literacy. Elementary and secondary schools, as well as colleges and universities, are heavily involved with assistance from our Learn and Serve America programs. Further, 915 colleges and universities have pledged to use a portion of their Federal Work-Study funds to enable college students to tutor children and work in family literacy programs. Today, tens of thousands of college students are working in schools, nonprofit organizations, and child care centers across the country to make America Reads a reality.

Let me highlight a few of these national service programs. In California, the Chancellor's Office for the California Community Colleges and fifteen local community colleges developed a program entitled "Building Individual and Community Self-Sufficiency Through Service," in which over 600 AmeriCorps*State members, with 16 AmeriCorps*VISTA's, are providing services to about 5,000 pre-school and K–3 children with special reading needs, including those of limited English proficiency. Many of the AmeriCorps*State members are former AFDC recipients, and they are enrolled in college courses studying early childhood education and literacy.

In Maryland, the Notre Dame Mission Volunteer Program, founded by the Sisters of Notre Dame, is using AmeriCorps members to tutor low-income children, operate after-school programs, and teach English as a Second Language to immigrant parents.

In West Virginia, the Southern West Virginia Community and Technical College uses AmeriCorps members to tutor children, ages 3 to 8 in schools and Head Start centers, tutor parents in their homes to prepare them to take the high school equivalency exam, and teach parents how to conduct reading activities with their children. Programs operate through the school year and in the summer.

The Houston READ Commission, a nonprofit created in 1988 by the City of Houston, administers the Literacy AmeriCorps program in which members focus on increasing children's literacy skills. They provide English as a Second Language courses, basic skills, pre-GED and GED classes, homework assistance to school-age children, and family and parent literacy programs. From 1996 to 1997, 67 Houston Literacy AmeriCorps members provided individual reading and school-readiness instruction to 560 pre-school and school-aged children and engaged 1,300 families in the Read Write NOW project through which participants devote time to read with their children on a regular basis. As part of the America Reads Initiative, the Literacy AmeriCorps members in Houston also served as tutors for 1,650 adults, helping learners to improve their basic skills thus increasing their ability to help their children. Since September 1997, the AmeriCorps members in Houston, as well as in the program's sister sites of Seattle and Palm Beach County (Florida), galvanized over 450 volunteers, including parents, as America Reads learning partners who provided direct literacy services to children.

In a soon-to-be-published book entitled "Social Programs That Work," Professor George Farkas of the University of Texas describes Reading One-to-One, a program that has used college students, AmeriCorps members, and community residents to tutor more than 6,000 students in more than 70 schools across more than ten school districts. Professor Farkas' study showed gains for this program of 0.4 to 0.7 grade equivalents above what students would have attained without tutoring, a significant improvement that will help assure that these children become literate. Educational experts report that these are truly significant accomplishments for those students who would otherwise be lost in the system.

By this diverse experience in assisting teachers, parents, and communities in their efforts to achieve literacy among our nation's children, national service is well

equipped for the challenge of America Reads. National service supports the infrastructure necessary to provide literacy programs, including: coordinating and managing volunteer tutoring programs, tutoring in after-school, summer, Head Start and child care programs, assuring that tutors are trained by professional providers, managing parental involvement and family literacy programs, supporting book drives and other programs that are intended to make sure children develop a passion for reading, and helping to leverage community resources to support literacy.

AmeriCorps "Education Award Only" Program

The AmeriCorps "Education Award Only" approach expands opportunities for young people to serve as AmeriCorps members, brings new communities and new program sponsors as our partners, and further increases the amount of non-federal resources supporting service programs. In this initiative, organizations apply to State Commissions or to the Corporation and demonstrate their capacity to recruit, train and supervise individuals serving in community-based programs and provide the support for these AmeriCorps members with little additional Corporation assistance. The members who successfully serve in such programs are eligible for an AmeriCorps education award. Senator Grassley has strongly urged this approach. At last April's Presidents' Summit on America's Future in Philadelphia, President Clinton challenged faith-based organizations, nonprofits, and colleges and universities to support this initiative.

We have already approved more than 100 new "Education Award Only" projects, including 60 which have not previously been part of AmeriCorps. Once they are fully operational, these programs will support more than 15,000 new AmeriCorps members. Sponsors include the Boys and Girls Clubs of America, which are placing 900 AmeriCorps members in as many as 125 Clubs to serve younger Club members; the National Council of Churches with the Council for Religious Volunteer Agencies, which are placing several thousand members to meet community needs through a wide range of national and local faith-based organizations; the National Council for Urban Economic Development, which has placed 50 members in several cities to develop crime and violence prevention activities, provide assistance for victims of crime and their families, and assist law enforcement with community policing programs; and LA Vets, which is placing approximately 200 members in up to 30 communities across the country to assist homeless veterans return to independent living.

We will accept proposals this year as well. As a result, we anticipate further reducing the cost-per-AmeriCorps member to the Corporation, and expanding the opportunities for traditional nonprofit organizations to join forces with AmeriCorps.

The National Service Scholarship Program (for High Schools)

Last year, I testified about our plans for the National Service Scholarship Program, which recognizes outstanding service by our nation's high school juniors and seniors. In this program, students doing outstanding service are selected to receive a scholarship of $1,000 for college costs, of which $500 comes from the National Service Trust and at least $500 comes from local scholarship sponsors. For fiscal year 1998, the Corporation was specifically allocated $5 million of the Trust appropriation for National Service Scholarships, enabling up to 10,000 high schools to make these awards.

The start-up year of the program was a remarkable success, with more than 1,700 high schools providing these scholarships to students recognized by their principals and communities. Matching scholarships were provided by a host of community foundations, local businesses, and religious and civic organizations, including the American Legion, Chambers of Commerce, Elks Lodges, the Junior League, Kiwanis Clubs, Lions Clubs, the Miss America Organization, Rotary Clubs, the Seventh Day Adventists, the Daughters of the American Revolution, and Veterans of Foreign Wars.

One of these 1,700 scholarship winners was Christopher Shields, from Saint Stephen's Episcopal School in Bradenton, Florida. He has volunteered for ten years at the American Red Cross Manatee County Chapter, where he has served in four national disasters, running messages, managing phone operations, distributing food to shelters, and assisting with night shift duties. During tornadoes in the Tampa area, he conducted damage assessment. Christopher also helped coach a community soccer team and volunteered at the local Head Start program, teaching arts and crafts to children. Christopher's scholarship is helping him to attend the Ringling School of Art and Design in Sarasota, Florida.

We are working to expand our partnerships to help encourage the additional matching resources required to expand the program. In Houston, for example, local

financial institutions have agreed to provide matching scholarships for all high schools in the area.

Our fiscal year 1999 budget proposal includes $7,500,000 for the National Service Scholarship Program to support scholarships in 15,000 schools.

Under an agreement with the Corporation, the National Service Scholarship Program is administered by the Citizens' Scholarship Foundation of America, a private 501(c)(3) foundation located in Minnesota. The Foundation has a long history of working with corporate America to encourage and reward community service by youth.

The Houses that Congress Built

Habitat for Humanity has enlisted our national service programs as key partners in this effort to build a home with and for a disadvantaged family in each Congressional District. Currently, 413 AmeriCorps members are serving with Habitat affiliates in 128 cities (161 Congressional Districts) in 30 States, the District of Columbia, and Puerto Rico. In addition to direct construction work, these AmeriCorps members prepare sites for home-building and help recruit, train, and supervise non-stipended volunteers, to maximize Habitat's resources and expand its productivity.

These AmeriCorps members serving with Habitat are supported through all of the traditional AmeriCorps funding streams, including an AmeriCorps*National grant made directly to Habitat, four AmeriCorps*State grants, and AmeriCorps*VISTA placements. In addition, 90 participants in the AmeriCorps*NCCC program have served with local Habitat affiliates so far this year, joining the 220 who did so in the first three years of the program. Twelve AmeriCorps*NCCC members are now serving a six-week tour with Habitat in Lynchburg, Virginia, organizing spring break work for hundreds of college volunteers in a Habitat blitzbuild. The NCCC plans to be in at least five other communities in coming months.

The national service network is proud to be Habitat's partner in this Congressional initiative and in Habitat's year-round mission of bringing affordable housing to all Americans.

The Martin Luther King Day of Service

Pursuant to the 1994 Act of Congress, the Corporation works in partnership with the Martin Luther King Center for Non-Violent Social Change to make the national holiday in honor of Martin Luther King, Jr. a "Day On, Not a Day Off" in which Americans, across the lines that divide us, join in service to their communities. In this, the third year of promoting this observance of Dr. King's birthday in a way that reflects his life and teachings, we had a breakthrough in focusing national attention on this day as a day of service. Our other national partners included the United Way of America, the Points of Light Foundation and Do Something—a youth service organization. With national media attention in almost every major media market and almost 300 local projects reported in 48 states, the District of Columbia, Puerto Rico and the Virgin Islands, we gained significant momentum toward our goal and legislative responsibility to promote service in honor of Dr. King.

Follow-up to the Presidents' Summit For America's Future

The Presidents' Summit For America's Future held last April in Philadelphia was an opportunity for the public sector to join with the private sector and the nonprofit sector to focus attention on the need for a new level of concerted citizen action to turn the tide for millions of young people. The goal of the Summit and of America's Promise, the post-Summit campaign led by General Colin Powell, is to mobilize millions of citizens and thousands of organizations—including government, corporations, foundations, faith-based and community service organizations—to help children who lack the conditions for success in life.

At the Summit, the Presidents signed a declaration setting five goals—five fundamental resources for a young person's success:

—an ongoing relationship with a caring adult—as a mentor, tutor or coach;

—safe places with structured activities to learn and grow during non-school hours;

—a healthy start and a healthy future;

—an effective education providing a marketable skill, including the ability to read well; and

—an opportunity to serve, not just be served.

National service is already playing an active role in achieving each of these goals. The fifth goal—service by young people—is at the heart of our mission. Goal Five seeks a large-scale expansion of youth service and service-learning opportunities. The Corporation is helping to shape and promote Goal Five in collaboration with a growing alliance of organizations committed to that effort, including the nation's great civic and youth service organizations such as the Y.M.C.A, Boys and Girls Clubs, the Lions Clubs, and Big Brothers Big Sisters of America; philanthropic orga-

nizations such as the W.K. Kellogg Foundation and the James Irvine Foundation; corporations with an interest in youth such as Viacom's MTV Networks; and faith-based organizations such as the Council of Religious Volunteer Agencies.

Since April, scores of States and communities have held their own follow-up summits to gather local partners and secure local commitments to pursue the summit goals. The national service network is actively assisting America's Promise in planning and carrying out these follow-up summits along with our original Summit partners—the Points of Light Foundation's Volunteer Centers and the United Way of America. State Commissions, Corporation State Offices, national service sponsors, and national service participants have worked with Governors, Mayors, corporate leaders, and nonprofit organizations to develop their own plans of action.

Consistent with the activities of the Summit, on January 1, 1998, President Clinton and former President Bush reintroduced the Daily Points of Light. Initially awarded during the Bush Administration, the Daily Points of Light are designed to honor volunteers and volunteer organizations that demonstrate unique and innovative approaches to community volunteering and citizen action, with a strong emphasis on service focused on the goals for children and young people set by the Presidents' Summit for America's Future. The Daily Points of Light program is co-sponsored by the Points of Light Foundation, the Corporation for National Service, and the Knights of Columbus. The Knights of Columbus Supreme Council provides full funding for the awards.

UPDATES ON MAJOR NATIONAL SERVICE PROGRAMS

AmeriCorps

AmeriCorps members continue to "get things done" (the mantra of national service) in hundreds of communities—large and small—in every state. It is interesting to note that more than 1 in 10 are serving their communities in programs sponsored by faith-based organizations.

The following data have been reported by just over half the programs. In the last year, AmeriCorps members have:

—Recruited about 66,000 volunteers for tutoring or other educational purposes.
—Tutored almost 97,000 students and mentored or counseled another 100,000.
—Conducted 50,000 home visits related to follow-up on educational activities such as tutoring and counseling.
—Worked on parenting skills with over 24,000 parents or families.
—Responded to almost 9,000 emergencies (fires, floods, tornadoes, search and rescue).
—Rehabilitated, renovated, restored or built nearly 100,000 units of housing and community buildings.
—Planted tens of millions of trees.
—Cleaned or restored thousands of miles of river banks and beaches.
—Assisted 15,000 pregnant women to receive prenatal care.
—Immunized over 20,000 children and adults.
—Conducted over 4,000 community safety patrols.

The American National Red Cross operates an AmeriCorps National Rapid Response Corps in Los Angeles and five other cities. AmeriCorps members provide emergency assistance to victims and communities, emergency food, shelter and clothing to disaster victims, and increase preparedness among children and youth in underserved areas. The Rapid Response Corps currently has teams from every project site deployed to assist in disaster relief. Recently, 40 members have assisted the Red Cross with the Coastal California floods, the Northern California disaster relief effort, and in Florida after a tornado touched down.

In addition to the Rapid Response Corps, AmeriCorps members serving in local programs often are asked to help lead recovery efforts when a disaster strikes the community. For instance, AmeriCorps members serving with the Colorado Youth Conservation and Service Corps responded to the Spring Creek Flood which struck Fort Collins, Colorado on July 28, 1997. The flash flood took the lives of five residents and caused extraordinary damage to the community. The AmeriCorps members helped secure the flood corridor, clear debris from the area, sandbag homes that were still taking in water from flood runoff, and operate the local disaster relief center.

The Blue Hills AmeriCorps program engages 21 AmeriCorps members in a partnership with the Kansas City, Missouri Police Department to help close drug houses, reduce crime by reporting drug activity, establish safety corridors, and train youth and adults in conflict resolution. This year, Blue Hills AmeriCorps members recruited and trained 504 volunteers to serve as guards at 62 school bus stops. Over the last three years, Blue Hills AmeriCorps has closed down more than 50 drug

houses, some of which have been taken over by the city and are being rehabilitated as affordable single-family housing for low income families. The 28 AmeriCorps members sponsored by the American Youth Foundation's St. Louis Partners for Service Education tutor and assist teachers in developing projects related to literacy, the environment, first aid, and substance abuse prevention. The AmeriCorps members have recruited more than 340 parents and community volunteers to assist in classrooms and other educational support activities.

The more than 200 AmeriCorps members of the United Youth Corps of Maryland serve in three distinct youth corps. Members serving with the Maryland Conservation Corps maintain and restore 15 state forests, parks, and wildlife management areas, while members with Civic Works, an urban youth corps, rehabilitate abandoned houses and construct community parks and gardens in low-income Baltimore neighborhoods. AmeriCorps members serving with Community Year tutor students with special needs and serve as teachers' aids. In addition, the AmeriCorps members develop an after-school program in which 160 middle school students perform community service and participate in environmental education activities.

In the RurAL Cap Alaska program, 25 AmeriCorps members have been recruited from 15 of the state's most rural villages. These members collaborate with tribal councils to identify critical needs related to the tundra environment. Members mobilize the community to improve solid waste disposal, initiate recycling projects, and conduct environmental education in Head Start and elementary school programs.

Forty-two Idaho Trio AmeriCorps members are improving the academic performance of 2,309 Head Start, K–12 and college students. The majority of these students face challenges including physical disabilities, disruptive home life, and poor English skills. Teachers benefit from AmeriCorps members providing in-class support by giving one on one and small group assistance to many students.

The Montana Conservation Corps supports 72 AmeriCorps members who are constructing and maintaining 250 miles of trail and 36 parks. The AmeriCorps members are also mentoring 450 youth whom they have engaged in 210 service projects, and are improving the homes of 41 low income senior citizens.

The Beyond Food program operated by the Congressional Hunger Center is fighting hunger and under-nutrition in Vermont, Mississippi, Wisconsin, and the District of Columbia. In just six months, Beyond Food provided more than 400 tons of food to low-income families, senior citizens, and the homeless. Throughout Vermont, 41 AmeriCorps members have recovered 7,100 pounds of food through food recovery and gleaning activities. The AmeriCorps members also provided emergency food assistance to those in need at local distribution sites by collecting, sorting, preparing and distributing over 374,550 pounds of food. The AmeriCorps members also served over 249,700 meals to those in need.

The National Association of Community Health Centers, a nonprofit organization that provides professional support services for over 800 community health centers, administers the Community Health Corps AmeriCorps program in which AmeriCorps members link individuals in Aurora, Colorado, Eutaw, Alabama, San Francisco, California, and six other cities with health centers through referral, education, and follow-up programs. During the past two years, the ten AmeriCorps members in Aurora have provided case management and referrals to 4,900 health center patients, reminded 780 parents about the importance of having their children immunized, taught 360 patients education about appropriate emergency room usage, and helped 4,800 patients find housing, food, legal aid and other health services. The members also provided translation services for at least 500 Spanish speaking patients. Local partners include the City of Aurora, the Boys and Girls Clubs of Denver, the Reach Out and Read Program, the Aurora Rotary Club, the local school district, and the Colorado OB/GYN Society.

Through the California Conservation Corps in Klamath, California, the AmeriCorps Backcountry Trails Program involves 80 young adults. The AmeriCorps members have enhanced 1,000 miles of wilderness trail, rebuilt sections of the Pacific Crest Trail in the spectacular Evolution Basin in Kings Canyon National Park, repaired 67 miles of storm-damaged trail in Yosemite National Park, repaired 15 erosion channels on trails leading into the Klamath National Forest Marble Mountain Wilderness, and installed a set of stone steps across a hazardous rock section in the Stanislaus National Forest's Carson-Iceberg Wilderness.

The New Jersey Community Development Corporation assigns AmeriCorps members to a number of sites to provide direct care to vulnerable individuals. Three members serve full time at the Mid-Bergen Mental Health Center in Paramus supporting the needs of 60 men and women with severe mental illness and helping them to live independently in the community. Additionally, five members serve people with developmental disabilities at two residences in Patterson.

Through outreach in 99 counties across Iowa, the 20 AmeriCorps members supported by the Iowa Coalition Against Domestic Violence work to promote and make services accessible to battered women and their children. During its four years of operation, AmeriCorps members have made contact with 20,000 victims of domestic abuse. In the 1996–97 program year, the AmeriCorps members helped approximately 500 women and 4,000 children receive care through 29 domestic violence agencies or projects. Similarly, AmeriCorps members serving with the West Virginia Coalition Against Domestic Violence addressed the safety, shelter, and basic food, clothing and resource referral needs of over 2,500 victims of domestic violence across the state. Members provide life skills training and mentoring to assist adults in moving out of violent relationships. In the first quarter of fiscal year 1998, more than 200 volunteers participated with AmeriCorps members, providing assistance from helping shelter residents find housing to leading a reading hour for children living in shelters.

In the rural west Alabama counties of Greene and Sumter, where more than 50 percent of the children are reported to live in poverty, 25 AmeriCorps members in the Rural AmeriCorps Student Project supported by West Alabama Health Services tutor and mentor 400 students in grades K–6. In the first two grading periods of the 1997–98 school year, 52 percent of the students served showed improvement in their grades, attendance, and attitude toward school. In addition, the 20 members of AmeriCorps Instructional Support Team in Butler County, Alabama provide tutoring and other academic enrichment services to 300 rural students in grades K–3 who are at risk of school failure. Four of the six schools in this system are on academic caution, and the State Department of Education ranks Butler County in the lowest cluster of school systems. To date in the 1997–98 school year, there has been an improvement in attendance among 17 percent of the students served; at least one letter grade of improvement in an academic subjects among 62 percent of the children served; and improvements in behavior/conduct grades among 37 percent of the students served.

Learn and Serve America

Another way to "get things done" is through the Learn and Serve America program—which builds an ethic of service among young people and students at all levels by making service an integral part of their education and life experiences.

The Learn and Serve America fiscal year 1999 appropriation request reflects an increase of $7 million over the fiscal year 1998 budget. The additional funds are targeted for the America Reads Challenge. Learn and Serve America will increase the number of participants and programs engaged in America Reads service-learning activities at the elementary, secondary and postsecondary levels by approximately 16 percent.

Last year, Learn and Serve programs made a difference in K–12 schools and institutions of higher education across the country. For example, the Miami-Dade Community College has created the Center for Community Involvement and Civic Literacy which links service-learning efforts, America Reads, and the community service mandate of Federal Work Study. Over 300 Miami-Dade students are America Reads tutors throughout Miami. Also, students in computer science classes lend their expertise to elementary school teachers to help them gain computer proficiency, students taking a women's leadership class are undertaking projects ranging from helping teen mothers to assisting soon-to-be paroled female prisoners, and students learning about the environment present the "Enviro-Cops" program to local schools.

AmeriCorps Program Demographics

AmeriCorps members reflect the diversity of the communities in which they serve. In the 1996–97 program year, approximately one in two AmeriCorps members was white, slightly less than one in three was African American, and one in six was Hispanic. Approximately three percent of these AmeriCorps members were of Native American, Asian, or Pacific Islander heritage.

Forty-four percent of AmeriCorps members supported through AmeriCorps*State and National grants in the 1996–97 program year had already earned a bachelor's degree, spent some time in graduate school, or earned a graduate degree. AmeriCorps members continue to come from the broad Middle Class. Forty percent of these AmeriCorps members came from households with an annual income of less than $30,000, 64 percent came from households with an annual income of less than $50,000, and a total of 77 percent came from households with an annual income of less than $70,000. Additional demographic information about AmeriCorps members is included in Charts 1–4 (attached).

III. OTHER KEY ISSUES

The Government Performance and Results Act

The Corporation is complying with the requirement of the Government Performance and Results Act (GPRA). We have met, and are meeting, all of the requirements of GPRA. Our strategic plan was submitted on time and in full compliance with the Act. We have distributed copies of the plan widely, throughout the national service community, and it is available on our Internet website at www.nationalservice.org. Our fiscal 1999 performance plan was sent to the Congress on February 20 and soon it will be available through the Internet.

The strategic plan and the performance plan lay out in clear terms our vision and goals, and the practical steps we will follow to get there.

In addition, standards of program quality will be set for every area of national service. We will be creating indexes that can be used to rate objectively the quality of our programs. These indexes will combine data from many sources, including customer satisfaction and community impact ratings, into an overall assessment of quality. Every program area will be subject to what we call community impact ratings. In a national survey, we will be asking key community representatives, who are expected to have first-hand knowledge of national service programs, to rate the impact and quality of the services provided by our programs.

Every program area sponsored by the Corporation will have some form of customer satisfaction survey. We intend to know and report how well national service participants are addressing the unmet needs of the American people.

To implement the plan and measure our performance against its goals, we have in place, or are in the process of establishing, the systems needed to get the job done. We are on schedule to implement fully the data collection and analysis plans needed so that we can report to the Congress and the public in March of 2000 how well we have done in meeting our goals.

Reauthorization

After two years of work with national service sponsors, partners and participants, as well as Governors, Mayors, and other local elected officials, the Corporation for National Service's reauthorization proposal is ready for transmittal by the President to the Congress. The bill, entitled the "National and Community Service Amendments Act of 1998," will be transmitted very soon and introduced with bipartisan co-sponsorship. The legislation proposes significant steps to improve national service, based on the lessons learned over the last several years and the careful analysis the programs have received from within and outside of the Corporation. Specifically, the proposed legislation:

—Strengthens partnerships with traditional volunteer organizations;
—Codifies agreements with Congress and others to reduce costs and streamline national service;
—Provides states additional flexibility to administer national service programs; and
—Expands opportunities for Americans to serve.

I want to emphasize that the Administration proposal is a starting point for—not the end of—discussions on what a reauthorization bill should include. I look forward to working with the Members of the Subcommittee on this important matter.

ADDITIONAL MANAGEMENT CHALLENGES

The Corporation faces additional management challenges, directly related to auditability. If we are to achieve full auditability and improve our financial management, we must address these as well. The Corporation requests the Subcommittee's assistance in addressing the following four issues which are discussed in more detail below: Full funding of Program Administration, the flexibility to transfer funds between activities, the fifth AmeriCorps*NCCC campus, and the cap on AmeriCorps National Direct grants.

Full Funding of Program Administration

Mr. Chairman, the Corporation faces important challenges in achieving the most effective management for an extraordinarily decentralized system. We have detailed above the actions we have taken and the milestones we have set for ourselves in these matters.

Because by statute 40 cents of every administrative dollar goes directly to the Governor-appointed State Commissions, the Corporation realized only a $1.2 million increase in Program Administration for fiscal year 1998. From that, the Corporation must continue to pay statutory pay increases and meet increasing workloads. For example, with funds appropriated in 1996, the Corporation enrolled approximately

23,000 AmeriCorps members in the National Service Trust. With funds appropriated in 1998, the Corporation will enroll approximately 48,000 members in the Trust. Each enrollment can represent up to 15 individual transactions for a qualified AmeriCorps member. Members who earn education awards must continue to receive service from the Trust throughout the seven years in which they have to use their awards. While productivity improvements have been made in improving that service, we need the full amount requested in the President's budget.

Flexibility to Transfer Funds Between Activities

The section of the VA, HUD, and Independent Agencies Appropriations Bill covering national service is written as a series of caps which add up to the total appropriated amount. Both the Congress and the Office of Management and Budget (OMB) have determined that the structure of the bill precludes transfers from one line item to another. Thus, we are precluded by law from moving funds from one area to another to address critical needs. For example, we need the flexibility to deploy significant resources on a one-time basis to clear up a backlog of trust documentation problems, develop a Management Information System (MIS), and close out old grants. We are asking for additional flexibility in this regard. I hope you will help us with this problem this year.

*The Fifth AmeriCorps*NCCC Campus*

The National Civilian Community Corps (NCCC) is a full-time residential national service program that provides a 24-hour a day ready response to national or natural disasters—and a range of other services. Corps members—age 18–24—receive extensive training in areas such a leadership development, CPR, first aid, family assistance, damage assessment, carpentry/building skills, public safety, mobilizing volunteers, tutoring, and trail building. All service projects conducted by AmeriCorps*NCCC members are planned and implemented in partnership with local and national organizations.

Lieutenant General Andrew P. Chambers (Retired) joined the Corporation for National Service last May as National Director of AmeriCorps*NCCC.

Last year Corps members assisted families and communities devastated by fires in California and South Carolina; floods, hurricanes, and tornadoes in South Carolina, Georgia, Puerto Rico, Massachusetts, California, Arkansas, West Virginia, Ohio, Baltimore, and North Dakota; and snow and ice in Nebraska. Corps members are presently deployed to Northern California, Delaware, and Arkansas to provide disaster relief to communities affected by floods. In fiscal year 1997, AmeriCorps*NCCC extended the term of service for 24 corps members to provide year round availability in the event of a disaster.

In fiscal year 1997, AmeriCorps*NCCC members performed over 400 service projects in local communities in 46 states. AmeriCorps*NCCC increased the emphasis on developing national partnerships with organizations that have local affiliates who address compelling needs such as Habitat for Humanity (including the Houses the Congress built initiative), Boys & Girls Clubs, and Y.M.C.A.

In the past year, the NCCC established a new campus in the Capital Region, with 100 members based on the former site of DC Village SW in Washington, DC. The Capital Region campus serves the District of Columbia, Virginia, West Virginia, Pennsylvania, and Ohio. Other regions are the Western Region, based in San Diego, California, the Central Region based in Denver, Colorado, the Southeast Region based in Charleston, South Carolina, and the Northeast Region based at the VA Medical Center in Perry Point, Maryland.

AmeriCorps*NCCC has functioned with flat funding of $18,000,000 for the past three years. To achieve the expansion of a new campus in the District of Columbia in fiscal year 1998, it was necessary to make extensive cutbacks throughout the program including terminating staff. The proposed $21,000,000 will enable AmeriCorps*NCCC to continue to operate five campuses, including one in the Capital Region.

The Cap on AmeriCorps National Direct Grants

Under the Corporation's authorizing statute, roughly one-third of the AmeriCorps grants funds are allocated for National Direct programs—including the Enterprise Foundation, the Arc of the United States, Habitat for Humanity, Jumpstart for Children, I Have A Dream Foundation, the American National Red Cross, and City Year. For fiscal year 1998, the Conference Committee imposed a cap of $40 million; an amount some $36 million below the level anticipated by the authorizing statute. Because of this cap, national nonprofits were unable to utilize the resources of over 2,600 potential AmeriCorps members to address local community needs for fiscal year 1998. (National Direct grantees sponsor more than 12,700 AmeriCorps members who last year recruited 72,332 non-stipended volunteers who served 784,826

hours.) AmeriCorps National Direct grantees are not even able to keep up with inflation, much less see any growth in promising new or proven older programs. We hope that this Subcommittee—and the Conference Committee—will eliminate the cap on National Direct for fiscal year 1999.

I look forward to working with you to make national service a program in which we can all take pride.

CHART 1.—*Race/Ethnicity of AmeriCorps*State/National Members: 1996*

	Percent
White	48
African-American	28
Hispanic	16
Asian	3
NatAm	2
Other	4

CHART 2—GENDER OF AMERICORPS*NCCC AND STATE/NATIONAL MEMBERS: 1996

[Program]

	Male	Female
NCCC	35	65
State/National	32	68

CHART 3.—*Educational Attainment by AmeriCorps*State/National Members: 1996*

[Highest degree achieved]

Less than high school	9
High school diploma	19
AA degree/same college	25
Bachelor's degree/some graduate school	25
Graduate school	19

*Family Household Income of AmeriCorps*State/National Members: 1996* [1]

[Income range]

$5,000 or less	6
$5,001 to $10,000	7
$10,001 to $20,000	13
$20,001 to $30,000	14
$30,001 to $40,000	14
$40,001 to $50,000	10
$50,001 to $60,000	9
$60,001 to $70,000	5
Over $70,000	23

[1] Members 30 years or younger.

PROGRESS IN ACHIEVING AUDITABILITY

Senator BOND. Thank you very much, Senator Wofford. I appreciate your addressing the efficiencies in the financial systems and management controls. That has been a plaque on the whole operation. It has been a significant impediment to the credibility of our efforts and it makes it far more difficult for us to support funding and obtain broad-scale support for it.

I congratulate you on the progress that has been made. In summary, I understand that, of the 99 findings identified by Arthur Anderson, 72 were resolved by October 1 of last year. I understand from your testimony that you have now addressed 10 of the 21 remaining material weaknesses. I congratulate you on that.

What steps are left and when will those deficiencies be corrected?

Mr. WOFFORD. Senator Bond, the plan that we will be presenting to you on March 18 will track every one of the remaining material weaknesses and important steps for us to take, including the steps related to the trust. It will be a timetable that will show when each of them can be achieved.

I look forward to working with you and your staff when that plan has been presented to you. I outlined some of the dates in my oral testimony just now.

Senator BOND. Fine. I appreciate that. I think it is very important that the inspector general be included in that. Has the National Service inspector general been participating in the development of the plan?

Mr. WOFFORD. She will be very much involved as soon as OMB is ready for us to give it to her, which should be in just a very few days. That is why we are setting March 18.

Senator BOND. Well, we will look to her and to the General Accounting Office to give us a review of how the plan is working. It is vitally important. I cannot emphasize too much that we have to be able to tell our colleagues and the American people that the financial controls are in place, that we know how the money is being spent, and that it is being spent in compliance with the authorizing legislation and appropriation.

So I appreciate that very much.

Mr. WOFFORD. I fully agree with you. We are not going to let you down.

EVALUATION AND EFFECTIVE PRACTICES

Senator BOND. Senator Wofford, the Corporation's 1999 budget justification has a broad mission statement: To address the Nation's education, human and public safety, and environmental needs to achieve direct and demonstrable results and foster civic responsibility, strengthen the ties that bind us together as a people, and provide educational opportunity for those who make a substantial commitment to service.

How do you measure and verify the goals to meet those requirements?

Mr. WOFFORD. We have this very year added investment and emphasis on doing just that by the formation of a Department of Evaluation and Effective Practices with an outstanding leader, the former executive director of the Florida State Commission, who has proven his record in achieving high quality programs at the State level.

We have a comprehensive set of evaluations that have been submitted and are ready for your review. I would like to submit for the record the list of perhaps 50 studies here that we have provided you on occasion. I would like you to review that list.

[The information follows:]

COMPLETED PROGRAM EVALUATIONS

Title	Contractor	Date
Foster Grandparent Program Evaluation	Westat	December 1997.
Measuring AmeriCorps*VISTA's Impacts on the Communities and Organizations It Serves.	Westat	December 1997.

COMPLETED PROGRAM EVALUATIONS—Continued

Title	Contractor	Date
Description of Current Corporation Leaders Programs, Options for Corporation Leaders Programs, and Recommendations for a Unified Leaders Program.	Macro	November 1997.
Study of Race, Class, and Ethnicity—Final Report	Macro	November 1997.
Practical Applications: Strategies for Supporting a Diverse Corps.	Macro	November 1997.
1997 Customer Satisfaction Survey	Macro	November 1997.
Description and Evaluation of the Summer Reads Initiative.	Macro	October 1997.
The Sustainability of AmeriCorps*VISTA Programs and Activities.	PeopleWorks	August 1, 1997.
AmeriCorps*State/National Programs Impact Evaluation: First Year Report.	Aguirre	June 12, 1997.
National Evaluation of Learn and Serve America School and Community-Based Programs—Interim Report and Appendices.	Abt/Brandeis	April 1997.
Evaluation Report Year Three AmeriCorps Leaders Program (ACLP).	Macro	April 1997.
1996 AmeriCorps*VISTA Accomplishments Summary of Findings.	Westat	April 1997.
Retired and Senior Volunteer Program RSVP Final Report.	Westat	March 1997.
Findings from the 1996 Survey of AmeriCorps Members.	Westat	February 28, 1997.
Review of Cluster Team Leader/Field Management Team System.	Westat	December 1996.
AmeriCorps*NCCC: Analysis of Responses to the Class Two Exit Survey—Final Report.	Westat	December 1996.
Executive Summary—AmeriCorps Team for the Games Host Organization.	Macro	October 1996.
Evaluation Report Year Two AmeriCorps Leaders Program (ACLP).	Macro	September 1996.
A Practical Guide to Continuous Improvement	Macro	July 1996.
Impacts of Service: Final Report on the Evaluation of American Conservation and Youth Service Corps Draft.	Abt	June 11, 1996.
Evaluation of Learn and Serve America, Higher Education: First Year Report, Volumes I and II (Technical Appendices).	RAND	May 1996.
Final Report: Impacts of the Higher Education Innovative Projects (Subtitle B2).	Abt	February 6, 1996.
Defense Conversion Assistance Program (DCAP) Memorandum on Community Impacts and Participant Outcomes—Draft.	Abt	January 5, 1996.
AmeriCorps Leaders Program Year One Evaluation: Areas to Strengthen and Recommendations.	Linda Camino, Ph.D	January 2, 1996.
Final Report: National Evaluation of Serve-America (Subtitle B1).	Abt/Brandeis University	December 21, 1995.
Serving America: Program Design and Implementation Lessons from the Serve-America Program (Draft).	Abt/Brandeis University	December 21, 1995.
AmeriCorps*VISTA 1994 Accomplishments Survey	Westat	December 1995.
Support for Local Organizations and Their Communities—Report from the AmeriCorps*VISTA 1994 accomplishments Survey.	Westat	December 1995.

COMPLETED PROGRAM EVALUATIONS—Continued

Title	Contractor	Date
Overview: National Evaluation of Serve-America (Subtitle B1).	Abt/Brandeis University ...	October 20, 1995.
An Evaluation of the Corporation for National Service's Earthquake Relief Projects in Los Angeles, California.	Linda A. Camino, Ph.D	September 19, 1995.
Lessons from the Field: Program Start-Up 1994–1995.	Westat	September 1995.
Final Report: National Service Demonstration Programs (Subtitle D).	Abt	July 17, 1995.
Demographics of AmeriCorps Members and the Areas Where They Serve.	Macro	July 1995.
Catalogue of Program Objectives AmeriCorps Programs (Fiscal Year 1995).	Macro	June 1, 1995.
Final Report: Impacts of Service-America (Subtitle B1) Draft.	Abt	April 20, 1995.
Educational Impacts of Summer 1993 Washington Service Teams (Draft).	Abt	April 13, 1995.
Effect of Living Allowances and Educational Awards on AmeriCorps Members' Ability to Serve and on Fostering Socio-Economic Diversity (Draft Final Report).	Westat	April 7, 1995.
Defense Conversion Assistance Program Report on the First Year of Implementation.	Abt	January 31, 1995.
Defense Conversion Assistance Program Report on the First Year of Implementation.	Abt	October 19, 1994.
Defense Conversion Proposed Phase 2 Evaluation Design.	Abt	July 28, 1994.
Interim Draft Report: Lessons Learned from the Experience of Subtitle D Programs.	Abt	July 22, 1994.
Interim Report: Lessons Learned from the Experience of Subtitle D Programs.	Abt	July 22, 1994.
Evaluation of National and Community Service Programs Lessons from the Experiences of Two Corps Providing Disaster Relief.	Abt	March 4, 1994.
Serving America The First Year of Programs Funded by the Commission on National and Community Service.	Abt	March 1994.
Final Report—Evaluation of the Summer of Service Program.	Abt	October 25, 1993.
Case Studies of Selected Summer Youth Corps Programs Report 1 of 2.	Abt	Summer 1993.
Evaluation of National and Community Service Programs First Annual Report—Program Profiles Draft.	Abt	March 15, 1993.

FURTHER EVALUATIONS

Mr. WOFFORD. We now have in our performance plan for the Government Performance and Results Act a set of new commitments for indepth evaluation. We are proud of the progress we have made. And yet, I agree with you that in a decentralized system such as this, which with our new education awards is even more decentralized, the Education Only Awards that Senator Grassley encouraged that we have had such a great growth in this year—some 14,000 positions in that category—developing a system

that can help this decentralized system keep to the high standards that the State commissions and nonprofit organizations are committed to is a very high priority for the Corporation.

CORRECTION TO THE RECORD

Senator BOND. I think it is vitally important that we have objective standards and criteria by which we can measure success. We have heard some claims of success based on anecdote, which is nice but I do not find it an adequate measure of performance and achievement.

Let me just cite you one example. The fiscal year 1999 budget justification for National Service identifies a program called Summerbridge. The budget claims, "AmeriCorps members provided support to 3,544 students and improved student testing scores in mathematics, language, arts, science, and literature at all sites, 16 cities, by 63 percent to 97 percent."

Now that sounds wonderful, especially as a 1-year achievement. But I really don't know what it means.

Does that mean that school testing scores are so low that you can improve scores essentially by 100 percent? Is the school system that bad that you can make a 63-percent increase by a volunteer effort?

What is going on there?

Mr. WOFFORD. Mr. Chairman, that statement in that budget submission document is a mistake. It is a result of the Summerbridge report having been written in a way that was misunderstood by us.

We have checked back with Summerbridge. The 60-percent plus is the impact on the individuals that were in the program. It is a misstatement.

Summerbridge itself is a program that has had various outside evaluations of its work over the years. It is considered a very outstanding program, and they are very embarrassed, and we are embarrassed, that that was misstated in the record.

Senator BOND. Well, I was going to say that that was certainly an accomplishment and could it be increased. That does bring into question some of the standards.

What did they mean by 60 percent? What did that 63 percent mean?

Mr. WOFFORD. I think I am going to ask to correct it for the record.

Senator BOND. Why don't we do that for the record because it is quite confusing.

Mr. WOFFORD. There are two things, what they meant originally and what was said.

[The information follows:]

SUMMERBRIDGE NATIONAL AMERICORPS

The information provided for the Corporation for National Service's Fiscal Year 1999 Budget Estimate for Activities Authorized by the National and Community Service Trust Act was based on the end-of-term progress report submitted by the Summerbridge National AmeriCorps for the 1995–96 program year.

The 1995–96 end-of-term progress report states that the AmeriCorps members in the program:

—provided tutorial support to 827 students;

—provided teaching support to 1,261 students;

—prepared eighth grade students at all sites for high school entrance;

—mentored 696 students and actively managed 760 individual student cases;
—conducted 83 home visits to provide parents with feedback and to discuss their child's successes and challenges;
—recruited 547 high school and college-aged tutors to work with middle school students during school-year programs; and
—generated 654 volunteers that contributed 66,090 hours of service.

The Budget Estimate stated that AmeriCorps members "improved student testing scores in mathematics, language arts, science, and literature at all sites by 63 percent to 97 percent." Further review indicates that part of this information was communicated incorrectly.

Summerbridge National reports that its AmeriCorps Teaching Program Sites "realized dramatic academic results among their student populations." Some of the highlighted indicate:

—66 percent of students at Lehigh Valley Summerbridge improved their scores in mathematics and 63 percent improved their scores in language arts.
—90 percent of students at Making Waves Summerbridge improved their scores on language arts skill tests, which focus on parts of speech, grammar, reading comprehension, and paragraph writing.
—71 percent of students at Making Waves Summerbridge improved their scores on math skills tests, which focus on fractions, decimals, percents, word problems, and algebra.
—86.5 percent of students at Making Waves Summerbridge indicated significant improvements in writing and 78.3 percent indicated significant improvements in literature skills.
—Student attendance at Summerbridge Sacramento improve to 97 percent and 100 percent of the students reported academic gains in the areas of algebra, fractions, and general organization.

MONITORING OF NATIONAL SERVICE PROGRAMS

Mr. WOFFORD. I would like just to add, Mr. Chairman, that some of the facts have come from the progress reports that projects submit. But most of the facts that are in the document—that is, in my written testimony—are drawn from our outside evaluators, not from the projects themselves.

Mr. Aguirre, President Ford's Commissioner of Education, and his outfit personally have done the largest evaluation.

Senator BOND. That kinds of leads me to the next question that I was going to ask. How do you ensure that the AmeriCorps programs are conforming to the agreed program requirements, matching requirements and participation requirements?

Do you have your own audit staff? Do you rely on outside evaluators? How do you make sure when money goes to a program that everything that is supposed to happen does happen?

Mr. WOFFORD. We do this in several ways.

In the first place, the larger projects are required to have their own audits.

Second, two-thirds of the AmeriCorps grants go through and are selected either in whole or initially by the Governor-appointed State commissions. They, under the act, are the first line of supervising and evaluating and monitoring of the projects in those States.

We have done a lot to help those State commissions develop the capacity to do that and we provide very active assistance.

We have our own program officers who do site visits. We are trying to increase the range of those site visits.

Some of our procedures on auditability are related to the intensifying of the efforts that will go on when we make our own site visits. The inspector general has a system of auditing these and intends in the future to spend more time auditing the programs in

the field. She already has a long record of audits that are very important to us.

Mr. Chairman, Chief Operating Officer Louis Caldera was just reminding me that the grant reporting system from the projects is a vital part of this. We are strengthening and tightening that in responding to the auditability issues, too.

Senator BOND. Tell me, what happens when the Corporation finds a program that fails to meet the requirements? What do you do?

Mr. WOFFORD. These are competitive grants. They come up for renewal. There are a number of grants that have not been renewed for reasons of performance.

PROGRAMS NOT RENEWED

Senator BOND. How many have been defunded or barred from future participation?

Mr. WOFFORD. The facts I was just given are related to how many. I think it is pertinent to know that in the original selection process, for example, for the State competitive grants, 316 applications were received and 163 were funded. That includes a lot of renewal applications.

Mr. WOFFORD. The first place that I can give you the response is in how many of the applications that come up to us are not accepted. But the first line of that competitive system for most grants, the overwhelming majority, are the State commissions. They do not submit to us their proposals until they have in a competitive process decided that these are the best.

I will have to let you know for the record the precise answer to your question.

[The information follows:]

The data from the most recent grant review (fiscal year 1997) is as follows for State competitive programs that were recompeting for funding, as well as the Tribal and National Direct proposals. State formula programs are not included since they are not required to provide this information.

Decisions made by the Corporation:

—AmeriCorps State competitive: 121 recompeting applications received, 12 or 10 percent failed in competition

—AmeriCorps National Direct: 27 recompeting applications received; 2 or 7 percent failed in competition

—AmeriCorps Tribal programs: 5 recompeting applications received; 1 or 20 percent failed in competition.

Decisions made by State Commissions or sub-grantee:

—AmeriCorps State competitive: 12 recompeting programs were not forwarded or did not reapply

—AmeriCorps National Direct : 3 recompeting programs did not reapply

—AmeriCorps Tribal programs: 1 did not reapply

Aggregating the data yields the following results:

—AmeriCorps State competitive: 24 or 18 percent of recompeting programs were not funded

—AmeriCorps National Direct : 5 or 17 percent of eligible recompeting programs were not funded

—AmeriCorps Tribal programs: 2 or 33 percent of eligible recompeting programs were not funded

Programs, even if defunded, are not legally barred from future participation. Clearly, their past performance would be considered in reviewing any new application. It is, however, extremely rare that programs, once they no longer receive funding from AmeriCorps, re-apply.

DEVOLUTION TO STATES

Senator BOND. Now that is important. But I am interested in the followup, the auditing, the monitoring. What is the role of the States in monitoring to make sure that the program is doing what it is supposed to be doing? I am a great believer in local control of programs. But I also have seen in my own State quite a few responsible local officials who are now residents of the corrections system because they chose not to exercise responsible stewardship over their funds. This is not to say that that ever happens in the National Service Corporation. But there needs to be a way to make sure that those are caught.

What are the roles of the States?

Mr. WOFFORD. The bipartisan State commissions are appointed by the Governors and are responsible to the Governors. They now have for the whole formula grant system the full authority to make those formula grants.

They report them, they submit them, we review them. If their processes—those of the State commissions—meet standards of proper peer review, if the commission is operating under the standards set by Congress on the nature of the commission, we have devolved that authority over the grants—the formula grants—to them.

We will, therefore, pay even more emphasis to whether those commissions are strong and are able to operate effectively. They have the primary monitoring responsibilities.

We have the help of the inspector general. When the inspector general finds that something has gone wrong, we are not going to be immune from seeing that there are going to be some prosecutions if there are any examples such as you described.

Senator BOND. I think as the program gets straightened out and we get more controls in place, is it possible to rely more on the State commissions? Are they, in fact, capable of administering the program and assuring that the program requirements are met?

Mr. WOFFORD. The Chief Operating Officer, Louis Caldera, and I are particularly looking at whether we need to invest more in assistance to the State commissions than we have yet done.

Senator BOND. I would think that devolving more responsibility if the States show they are willing and able to handle that responsibility would make some sense because they would be in a better position to control it. So we will look forward to an ongoing discussion following what is happening in those areas where you are able to devolve that to the States and which responsibilities can effectively be administered at the State level.

Mr. WOFFORD. Mr. Chairman, I strongly support that policy. It has been a major emphasis of ours in the last 2 years and may be so even more in the future.

AMERICA READS AND LITERACY

Senator BOND. Literacy is a very, very important priority of mine. I have been involved in many different types of literacy activities.

Last year, we funded America Reads at $25 million, specifically identifying America Reads. But it seems to me that tutoring and

mentoring has always been considered a part of national service. The President's budget for fiscal year 1999 asks for $93.33 million.

What is the basic model or construct? What are you going to be doing with these specific America Reads volunteers? What is their job?

Mr. WOFFORD. Mr. Chairman, I know there is discussion and debate on what the role of the Education Department should be in promoting children's literacy and the goal of all children reading by the end of grade 3. I know that is a commitment to Federal participation and that is a major commitment in the budget agreement.

Our participation in children's literacy began at the very start of the Corporation. One of the statutory purposes given by Congress is education, using AmeriCorps members to assist education and early childhood education, after school programs, Saturday programs, summer programs. Tutoring reading, mathematics and other vital subjects was a priority of the Corporation before there was anything called America Reads.

So we have some 83 programs around the country today that are in children's literacy. We have an attachment for the record of one literacy program for each State, though we have more than one. I would ask one of my colleagues to send it up to you. We will put it in the record.

Senator BOND. Great.

[The information follows:]

EXAMPLES OF THE CORPORATION FOR NATIONAL SERVICE AMERICA READS ACTIVITIES [1]

ALABAMA

Alabama Association of RSVP Directors, 217 Pearson Street, Troy, AL 36081, Telephone: (334) 566–6158, Contact: Jennifer Lindsay.

Number of Retired and Senior Volunteer Program (RSVP) Volunteers 10

Program Summary.—RSVP volunteers have recruited more than 434 community volunteers to work in 107 Title I schools in first through third grade classrooms, helping more than 1,093 students learn to read. The volunteers have partnered with Rolling Readers, Learn and Serve America projects, and community coalitions. The community volunteers include RSVP volunteers, federal work-study students, Learn and Serve America students, and the general public. Some local banks have agreed to give employees time off to volunteer in schools. This program has recruited volunteers through TV appearances, ads in a free local ad paper, flyers and recruitment parties, bookstores, church bulletins and tenant meetings.

ALASKA

Nine Star Enterprises Inc., AmAK Literacy Project, 125 West 5th Avenue, Anchorage, AK, Telephone: (907) 279–7827, Contact: David Alexander.

Number of full-time AmeriCorps members 10

Program Summary.—This literacy program provides literacy training to children in kindergarten through third grade as well as their parents and families. The members serve in Anchorage and small towns with several community-based organizations.

ARIZONA

Southeastern Arizona Human Resources Council, RSVP of Willcox, PO Box 399, Willcox, AZ 85643, Telephone: (520) 384–0665, Fax: (520) 384–0038, Contact: Gloria Cota.

Number of Retired and Senior Volunteer Program (RSVP) volunteers 15

[1] One project per State is highlighted in this document.

Program Summary.—This tutoring program uses bilingual volunteers and addresses the needs of many farmworkers and their children. They held an open house at Willcox Elementary School and had an RSVP booth to recruit for tutoring and reading help. In addition to working with the elementary school children, the RSVP volunteers also work with Head Start children.

ARKANSAS

Southeast Foster Grandparent Program, 1022 Scogin Drive, Monticello, AR 71655, Telephone: (870) 367–6848, Contact: Shirley Martin.

Number of Foster Grandparents (FGP) 16

Program Summary.—Four elementary schools in southeast Arkansas began participating in an America Reads initiative utilizing Foster Grandparents as tutors the fall of 1997. Teachers from each of the four schools referred children whose total reading scores were in the bottom of the lowest 25 percent on the Stanford 9, a national norm-based test. The sixty-four lowest-scoring children were assigned to 16 Foster Grandparents. All Foster Grandparents have been trained in caregiving, reading and helping children to stay on task. According to teacher evaluations collected in January 1998, all students are reading with more confidence after just a few months with a Foster Grandparent, and 77 percent of the teachers reported that the children were making excellent progress.

CALIFORNIA

Building Individual and Community Self-Sufficiency Through Service, 1107 9th Street, Sacramento, CA 95814, Telephone: (916) 323–0453, Fax: (916) 327–8232, Contact: Edward Connolly.

Number of part-time AmeriCorps members 616

Program Summary.—The Chancellor's Office for the California Community Colleges and fifteen local community colleges developed this program, recruiting 616 AmeriCorps members and also 16 AmeriCorps*VISTA members. The AmeriCorps members receive Temporary Assistance to Needy Families (formerly AFDC recipients) and are enrolled in college early childhood education and literacy classes. Members provide 15 hours per week of literacy services to children from pre-school through third grade. A total of 4,960 low-income and limited English speaking children who are reading and writing below their age/grade appropriate levels will be served. Members serve seven to nine kids for two to three hours each day, five days each week using a standardized literacy training curriculum.

COLORADO

Colorado Commission on National and Community Service, Community Action on Reading and Education Network (CARENET), Commerce City, CO 80022, Telephone: (303) 853–3242, Fax: (303) 289–4097, Contact: Ron Cabrera.

Number of full-time AmeriCorps members 20
Number of part-time AmeriCorps members 4

Program Summary.—Members serve as literacy instructors and tutors for children in first, second, third, sixth and ninth grade. Members have also launched a family literacy program, and have provided instruction and tutoring to out-of-school youth. The goals of the program are to improve test scores in literacy and academic achievement skills for 350 children; to improve test scores of the children's parents in parenting and literacy skills; and to improve literacy, employment and lifelong learning skills of out-of-school youth and adults. This program provides team-based services in an urban community.

CONNECTICUT

Connecticut Commission on National and Community Service Leadership, Education and Athletics in Partnership (L.E.A.P), 254 College Street, New Haven, CT 06510, Telephone: (203) 773–0770, Fax: (203) 773–1695, Contact: Henry Fernandez.

Number of part-time AmeriCorps members 230

Program Summary.—AmeriCorps members tutor and mentor 900 inner-city children ages 7 through 14 in after-school programs. During the summer months members live in the housing developments where the children reside and provide structured activities throughout the day. The intensive tutoring and mentoring provided by the members is designed to result in improved reading skills, increased self-es-

teem, and better social behavior of the participating school-aged children. In addition, members have organized 300 community service activities for the children and their families and neighbors during the program year.

DELAWARE

RSVP of Kent County, Modern Maturity Center, 1121 Forrest Avenue, Dover, DE 19904, Telephone: (302) 734–1200, Contact: Dwight Hackett.

Number of Retired and Senior Volunteer Program (RSVP) volunteers 20

Program Summary.—RSVP volunteers joined other community volunteers in tutoring thirty-two students in first, second and third grade who were reading below grade level. Volunteers were trained by the YMCA Resource Center, which also provided a grant for the program. Volunteers were then matched with specific students, and individual work plans were established. The RSVP volunteers provided the students with thirty minutes of one-to-one tutoring four times a week over a seven month period.

DISTRICT OF COLUMBIA

DC Reads, Communities in Schools of Washington, D.C., 820 First Street, NE, Suite 480, Washington, D.C., 20002, Telephone: (202) 289–4314, Fax: (202) 289–7325, Contact: Alan Chambers.

Number of AmeriCorps*VISTA members 33
Number of RSVP volunteers 85
Number of Foster Grandparents (FGP) 35

Program Summary.—DC Reads will increase literacy among children and families throughout Washington, DC. Through the involvement of DC Public Schools, six local colleges and universities, businesses, and other public and private organizations, DC Reads is supporting the national goal to ensure that all children can read well and independently by the end of the third grade. This year, the following activities are being implemented in 16 schools identified as DC Reads sites: "Book Partners:" First-graders are paired with the community volunteers and federal work-study students for an hour-long session held two to three times each week. Two AmeriCorps*VISTA members re serving with Communities in Schools in each of the 16 sites to recruit and coordinate volunteers and manage communication among parents, teachers, tutors, and students. In addition, Foster Grandparents and RSVP volunteers serve as tutors. "Saturday Academy:" Second and third graders participate in a Saturday tutoring program to increase students reading proficiency.

FLORIDA

Mid-Florida Community Services, 1127 N. Boulevard East, Leesburg, FL 34748, Telephone: (352) 589–4545, Contact: John Fuller.

Number of National Senior Service Corps volunteers receiving a stipend 12
Number of other senior volunteers 6

Program Summary.—Mid-Florida Community Services of Leesburg, an RSVP Program, will apply its experience in reading achievements for young children to the "Seniors for Schools" Initiative. "Seniors for Schools" will operate as a "reading coach" model, with senior volunteer tutors who primarily work one-on-one with children for fifteen to twenty hours each week. Four schools will participate, and an estimated 150 children, identified by teachers as reading one or more grade levels behind, will receive needed assistance with reading. Teachers and the senior volunteers will work in close partnership to plan activities and goals for the children. A coalition involving other community groups and the Partners for Success AmeriCorps project will provide technical assistance.

GEORGIA

Georgia Commission on National and Community Service, Hands On Atlanta AmeriCorps, 931 Monroe Drive, Suite 208, Atlanta, GA 30308, Telephone: (404) 872–2252, ext. 19, Fax: (404) 872–2251, Contact: Michelle Nunn.

Number of full-time AmeriCorps members 131
Number of part-time AmeriCorps members 40

Program Summary.—AmeriCorps members provide tutoring, service-learning, mentoring, and life skills programming for students in seventeen Atlanta elementary, middle, and high schools to increase the academic and general school success

of nearly 6,000 students. Five initiatives, TEACH, READ, SERVE, LEAD, and CITIZEN SUMMER, will be implemented. These programs include one-to-one and small group tutorial assistance; management and coordination of volunteer reading mentors; integration of service-learning into curricula; development of projects to engage students in direct service to the community; leadership development training; and engaging high school students as tutors in elementary school programs. Members serve in teams of four to ten in schools where a majority of students are eligible for free or reduced lunch and where student scores on standardized tests are below the fiftieth percentile.

HAWAII

Hawaii Reads, University of Hawaii—Manoa, 2600 Campus Road, Honolulu, HI 96822, Telephone: (808) 956–4641, Fax: (808) 541–3603, Contact person: Atina Pascua.

Number of Learn and Serve America students	36
Number of Retired and Senior Volunteer Program (RSVP) volunteers	28

Program Summary.—Learn and Serve America students were recruited specifically for the America Reads initiative to provide tutoring to 110 low-achieving students in kindergarten through fifth grade to improve reading comprehension by two levels. The volunteers will provide 2,200 hours of service throughout the school year. This project began October 1, 1997.

The RSVP volunteers will work with eighty-four second grade students for one hour per week. They will provide one-on-one individualized tutoring to students identified as needing assistance with reading comprehension and critical thinking skills. RSVP volunteers will provide 3,000 hours of service during the school year.

IDAHO

Idaho Commission for National and Community Service, Idaho TRIO AmeriCorps (ITAC) Program, 500 8th Avenue, Lewiston, ID 83501, Telephone: (208) 799–2084, Fax: (208) 799–2058, Contact: Jeannie Harvey.

Number of full-time AmeriCorps members	16
Number of part-time AmeriCorps members	14

Program Summary.—AmeriCorps members provide tutoring and mentoring to at-risk students from Head Start through high school in order to increase students' reading levels, assist students with their homework, and help individuals obtain GED's. Small teams consisting of one to four members, are placed in four regions of the state. These areas are nearly all isolated, rural communities. In addition, they will provide career information and educational needs assessments, and develop job shadowing opportunities for high school students.

ILLINOIS

IL Department on Aging, Illinois Reads, 421 East Capitol Ave., #100 Springfield, IL 62701–1789, Telephone: (217) 785–3355, Fax: (217) 785–5880, Contact: Mary Selinski.

Number of AmeriCorps*VISTA members	6

Program Summary.—The Illinois R.E.A.D.S. (Retirees Educating and Assisting in the Development of Students) is an intergenerational initiative that has been operating in Illinois since 1991. R.E.A.D.S.' mission is to find Seniors willing to tutor young people and to place them with young children with specific reading needs. This project has a governor's level of six volunteers and a potential of growing to ten. This state-wide project, also collaborates closely with the twenty-three RSVP projects in Illinois.

INDIANA

Indiana Governor's Commission on Community Service and Volunteerism, Indiana Reading Corps, 620 Union Drive, Room 618, Indianapolis, IN 46202, Telephone: (317) 274–8285, Fax: (317) 274–8744, Contact: Pamela McKeough.

Number of full-time AmeriCorps members	11
Number of part-time AmeriCorps members	20
Number of part-time Education Award Only members	36

Program Summary.—The Indiana Reading Corps builds on local efforts to create literacy programs for children in kindergarten through sixth grade both during the

school day and after school. Members serve as literacy tutors, create and improve children's literacy programs and recruit and train community volunteers. The full-time members will be single placements at eleven colleges and universities, and the part-time members will serve in teams at three universities. This program serves both rural and urban youth.

KANSAS

Wichita/Sedgwick County Communities in Schools, Inc., 412–418 South Main, Suite 50, Wichita, KS 67202, Telephone: (316) 833–5110, Contact: Vicky Roper.

Number of AmeriCorps*VISTA members 4

Program Summary.—AmeriCorps*VISTA members are implementing a literacy project for seventy-five families. Adults and children are tutored, while parents are taught how to reinforce reading and math skills at home. Members are also developing a summer school program to serve thirty-five additional families. Members are working to collaborate with four other organizations to provide effective school-based programs. Currently, 100 parents and their children are being served at four sites by sixty recruited volunteers. One site has added a family literacy component to their program. The classes are also serving a new immigrant population that has not been reached in the past.

KENTUCKY

Kentucky Commission on Community Volunteerism and Service, AmeriCorps Student Service Consortium, Eastern Kentucky University, College of Education, 423 Bert Combs Building, Richmond, KY 40475, Telephone: (606) 622–6543, Fax: (606) 622–6526, Contact: Nancy Thames.

Number of full-time AmeriCorps members 41

Program Summary.—AmeriCorps members in the Student Service Consortium facilitate, coordinate, and implement America Reads literacy/tutoring programs and service-learning programs in kindergarten through the postsecondary level. Reads member coordinators train parent and community volunteer tutors, establish and implement curricular and extra-curricular reading clubs, strengthen at-home reading activities, and establish after-school, weekend, and summer tutoring programs. Member coordinators also prepare students for service-learning, facilitate service-learning projects, and lead students in project reflection. Members serve individually or in pairs at one of the Consortium's twenty-two school districts, three institutions of higher education, or three community service organizations.

LOUISIANA

Youth Volunteer Corps of America, YVCA AmeriCorps, 6310 Lamar Avenue, Suite 125, Overland, KS 66202, Telephone (913) 432–9822, Fax: (913) 432–3313, Contact: Veronica Knight.

Number of full-time AmeriCorps members 42
Number of part-time AmeriCorps members 48

Program Summary.—Youth Volunteer Corps of America (YVCA) creates and increases volunteer opportunities to enrich America's youth, addresses community needs, and develops a lifetime commitment to service. There are currently Youth Volunteer Corps programs in over 50 communities in the United States. AmeriCorps members act as service-learning coordinators, recruiting and training school-age youth to recognize and address community problems, and provide tutoring, mentoring, and reading support. Members also recruit, lead, and supervise volunteers in youth-generated service projects while encouraging each volunteer to commit to a lifetime of service.

Other operating sites: Arizona, Florida, Michigan, Missouri and Washington.

MAINE

Maine Campus Compact Rural Service-Learning Initiative, 215 College Street, Lewiston, ME 04240, Telephone: (207) 786–8217, Fax: (207) 786–6170, Contact: Liz McCabe Park.

Program Summary.—The Maine Campus Compact will support twelve projects through its consortium and the partnership with the NH Campus Compact and provide training and technical assistance activities to create models of excellence in rural service-learning and deepen institutionalization efforts on campuses in Maine and NH. Projects will encourage the development of rural, project based service-

learning dealing with youth oriented issues, community defined projects, or projects that address innovation in transportation. Over half of the projects are focused on America Reads activities. Training and technical assistance efforts involve: professional development for faculty and staff as well as students and community partners.

MARYLAND

Maryland Governor's Commission on Service, Enhancing Neighborhood Action By Local Empowerment (ENABLE), 511 West Lombard Street, 5th Floor, Baltimore, MD 21201, Telephone: (410) 706–3559, Fax: (410) 706–6630, Contact: Sheila Curry.

Number of full-time AmeriCorps members 33
Number of part-time AmeriCorps members 128

Program Summary.—AmeriCorps members conduct health assessments and monitor clinical symptoms for persons with chronic illnesses, and provide the HIPPY (Home Instruction Program for Preschool Youngsters) and other pre-school readiness programs. In addition, members provide after-school literacy tutoring for 500 second and third grade students. Members serve in teams organized around the four separate initiatives: Community Health, Early Childhood Development, Reading Edge, and Healthy Environment.

MASSACHUSETTS

MAGIC ME/Boston, Inc., 21 Temple Place, Boston, MA 02111, Telephone: (617) 423–6633, Contact: Melissa Gartenberg.

Number of National Senior Service Corps volunteers receiving a stipend 6
Number of other senior volunteers 36

Program Summary.—MAGIC ME/Boston, Inc. implemented its "Seniors for Schools" Initiative as the "Leaps in Literacy Program" and derives its achievement model from the successful SLICE Corps in Kentucky. Five elementary schools are targeted as operating sites, with an estimated 464 kindergarten through third grade children involved. MAGIC ME is applying its successful intergenerational "reading coach" model to "Seniors for Schools." The volunteers will work in the classroom, and follow a regular schedule. This enables the reading coaches to receive ongoing encouragement and suggestions directly from the teachers, who will work in partnership with the volunteers. The senior volunteers will collaborate with other Corporation projects in the Boston area, primarily Brockton City Pride AmeriCorps and the Mayflower RSVP. The intensive service volunteers are serving as "reading coaches," an approach that supplements classroom teaching through one-on-one reading and discussion of children's literature. Currently, the program serves 71 children.

MICHIGAN

Michigan Community Service Commission, Detroit's Academic Success Project, 1212 Griswold, Detroit, MI 48226, Telephone: (313) 226–9433, Fax: (313) 226–9490, Contact: Octavia Vaughn-Wilson.

Number of full-time AmeriCorps members 25

Program Summary.—AmeriCorps members provide in-school and after-school tutoring to low-achieving students in five elementary schools in empowerment zones. Students will increase their reading comprehension and academic achievement. The members will also develop community-wide service-learning projects to promote civic responsibility.

MINNESOTA

Senior Resources, Inc., 2021 E. Hennepin, Suite 130, Minneapolis, MN 55413–2723, Telephone: (612) 617–7807, Contact: Tanya Prindle.

Number of National Senior Service Corps volunteers 80
Number of AmeriCorps*VISTA 4

Program Summary.—Senior Resources, Inc. of Minneapolis, will implement "Seniors for Schools" in four elementary schools. A total of eighty senior volunteers—forty intensive—will work as teams to help 300 children increase their reading achievement. Senior Resources, Inc. hopes to further develop an integrated program that relies on the skills of the senior volunteers, partnerships with public schools, and participation by the community, including more parents. Four Ameri-

Corps*VISTA members will serve as the school coordinators for each of the operating sites and will track measurable outcomes, develop resources, recruit and train volunteers, and involve interested community members in the initiative. Anticipated outcomes for the children include improved reading skills as a direct result of the volunteer effort; improved appreciation of older persons as caring, valuable tutors and coaches; and improved academic performance in core areas as identified by teachers.

MISSISSIPPI

Mississippi Commission for Volunteer Service, Campus Link, 3825 Ridgewood Road, Jackson, MS 39211, Telephone: (601) 982–6489, Fax: (601) 982–6790, Contact: Thomas Layzell.

Number of full-time AmeriCorps members 40

Program Summary.—AmeriCorps members tutor 500 under-achieving elementary school students in order to increase their reading comprehension levels, increase the students' self-esteem, and increase the students'self-motivated reading. Members serve in pairs on ten university campuses throughout Mississippi through existing or newly established Campus Service Centers. Volunteerism is a key component of this program—500 volunteers contribute 50,000 hours of tutoring through this program.

MISSOURI

YMCA of Greater Kansas City, 3100 Broadway, Suite 93, Kansas City, MO 64111, Telephone: (816) 561–9622, Contact: Kimberly Jordan.

Number of National Senior Service Corps 26

Program Summary.—YMCA of Greater Kansas City received one of the Corporation's first demonstration grants to operate its AmeriCorps program, "Bridges Across the Heartland." YMCA is capitalizing on its success by interjecting "Seniors for Schools" into the overall initiative as a unique component. A total of fifty senior volunteers will be recruited; thirty of the recruits will serve as the "central corps" and work intensively in two schools for at least fifteen hours each week. An anticipated 276 children will receive extra tutoring and assistance due to the direct service of the volunteers. The senior volunteers will work with AmeriCorps members in specific "classroom-focused" activities as intergenerational partners. An individual tutoring model will be the foundation, which will be supplemented by small group work with the children, reading circles, read aloud time, and practice sessions. Specific volunteers will work with assigned children and teachers over each school year, thus creating an ongoing presence and relationship to help reinforce the children's learning. Teachers and senior volunteers will work collaboratively to develop reading plans for each child. Senior volunteers will also work in the community to engage more parents in school conferences and reading time with their children. Currently a total of 80 children are being served.

MONTANA

Montana Community Services Advisory Council, Missoula Aging Services, Inc., 227 West Front Street, Missoula, MT 59802, Telephone: (406) 728–7682, Fax: (406) 728–7687, Contact: James Harris.

Number of full-time AmeriCorps members 10

Program Summary.—AmeriCorps members develop school-based service learning and tutoring programs and recruit community volunteers to sustain them. Members serve in a mixture of urban and rural school districts.

NEBRASKA

Eastern Nebraska Foster Grandparent Program, 100 Centennial Mall North, Room 156, Lincoln, NE 68508, Telephone: (402) 437–5493, Fax: (402) 437–5495.

Number of Foster Grandparents (FGP) 18

Program Summary.—Eighteen of the seventy Foster Grandparents of the Eastern Nebraska Office on Aging serve children in nine schools of the Omaha and Fremont Public School system. Over 300 children per week benefit from the knowledge, patience, and understanding the Foster Grandparents give in an effort to maximize the learning potential of each individual child. Foster Grandparents work one-on-

one with children in the schools to provide the extra attention needed to learn the fundamentals of reading, writing, and math.

NEVADA

Community Chest, The Pinon Service Project Coalition, PO Drawer 980, 991 South "C" Street, Virginia City, NV 89440, Telephone: (702) 847–9311, Contact: Deborah Loesch-Griffin.

Program Summary.—The Pinon Service Project Coalition will recruit twelve part time and two full time corps members from the University of Nevada-Reno's College of Education and College of Human and Community Sciences to serve as service-learning coordinators in one of eight kindergarten through twelfth grade partner schools and/or in community based organizations or in one of four UNR colleges or departments to work with faculty. Corps members will work with student volunteers in the development and implementation of direct service projects involving youth services, educational programs and after school latchkey programs. Whenever possible, service-learning coordinators will be placed at existing School to Work and Learn and Serve sites, resulting in an integrative educational reform strategy that provides opportunities for students to learn in their communities by serving and working while applying their classroom-based academic learning.

NEW HAMPSHIRE

New Hampshire National & Community Service Executive Board, New Hampshire Reads, 2 Industrial Park Drive, Concord, NH 03301, Telephone: (603) 225–3295, Contact: Brian Hoffman.

Number of full-time AmeriCorps members 35

Program Summary.—This program is a coalition of service providers that meet the needs of young children. AmeriCorps members will work with coalition agencies to recruit volunteers to provide literacy services and tutoring for children from infancy through third grade. AmeriCorps members will also run a camp to help at-risk children maintain their academic achievement levels during the summer, when skills tend to "drop off" during school vacation. Members are placed with agencies across the state and will facilitate the improvement of school readiness and reading skills of 2,700 children and their families.

NEW JERSEY

New Jersey Commission on National & Community Service, A+ for Kids Mercer County Reads Project, 2 Village Blvd., 2nd Floor Forrestal Village, Princeton, NJ 08540, Telephone: (609) 951–0332, Fax: (609) 951–0644, Contact: Joyce Kersey.

Number of full-time AmeriCorps members 20

Program Summary.—Mercer County Reads participates in the America Reads initiative by having twenty AmeriCorps members provide literacy tutoring to 190 students at the district's most troubled school. They also offer after-school homework assistance and run a summer reading lab. Members also focus on tutoring and mentoring service for children and parents in transitional housing, with an emphasis on employable skills for parents.

NEW MEXICO

Santa Fe Boys & Girls Club, P.O. Box 2403, Santa Fe, NM 87504, Telephone: (505) 983–6632. Contact: Chris Cavazos.

Number of AmeriCorps*VISTA members 2

Program Summary.—The AmeriCorps*VISTA members with the Santa Fe Boys & Girls Club have been tremendously successful in developing the educational infrastructure of the public housing community. The members, in collaboration with the Santa Fe Community College AmeriCorps program, have recruited five volunteers to deliver educational services on a daily basis to the 250 Club members. The educational services include tutoring and peer reading. The AmeriCorps*VISTA members have also organized a read-a-thon, which will reward children with gift certificates from local restaurants upon the completion of reading and writing descriptions of approximately 20 books. Currently a member is developing a family literacy program and organizing community college adult basic education classes to be held at the Boys & Girls Club. Santa Fe AmeriCorps*VISTA members are working to strengthen the educational infrastructure of low-income communities so all people will have the opportunity to develop their capacity.

NEW YORK

Jumpstart AmeriCorps Program, 93 Summer Street, Boston, MA 02110, Telephone: (617) 542–5867, Fax: (617) 542–2557, Contact: Dianne Morales.

Number of part-time AmeriCorps members 120
Number of federal work study students 99

Program Summary.—Jumpstart is a nonprofit geared to school readiness activities for children and their families, while providing young people (who are mostly college students) with a training program that results in early childhood certification. Jumpstart engages young people in service to their communities by preparing pre-school age children to enter school.

Members are paired with a preschool-age child, engaging the child and his or her family in school readiness activities, particularly around early childhood literacy. Members garner community interest and support through an annual "Children Across the City" day, where parents, their children, and other community members are introduced to a variety of learning activities for preschool age children.

NORTH CAROLINA

Student Coalition for Action in Literacy Education (SCALE), National Clearinghouse, 140½ E. Franklin Street, Chapel Hill, NC 27599, Telephone: (919) 962–1542, Fax: (919) 962–6020, Contact: Ed Chaney.

Program Summary.—SCALE is a National Clearinghouse for campus volunteer and service-learning literacy programs, and America Reads work study programs receive training and support from SCALE staff. SCALE provides regional training, individual site visits, and a national conference. SCALE also supports networking opportunities through training, conference, newsletters, and Internet technologies. SCALE also provides campuses with written materials, phone support, and resource referrals. SCALE is providing national leadership in the development of high-quality federal work study America Reads programs.

NORTH DAKOTA

South/North Dakota Reads, Corporation for National Service, South/North Dakota State Office, 225 South Pierre Street, Room 225, Pierre, South Dakota 57501, Telephone: (605) 224–5996, Fax: (605) 224–9201, Contact: John Pohlman.

Number of Retired and Senior Volunteer Program (RSVP) volunteers 64

Program Summary.—In Bismarck, twenty-five RSVP volunteers are involved with the Pairing Adults with Students (PAW's) program, which works with twenty-five students in first through third grade. Volunteers mentor and provide help with homework assignments that include reading.

OHIO

RSVP of Greater Cleveland, Inc., 2611 Church Avenue, Cleveland, OH 44113, Telephone: (216) 566–9192, Contact: Joy Banish.

1Number of National Senior Service Corps 18

Program Summary.—The Retired and Senior Volunteer Program of Greater Cleveland, Inc. is collaborating with four other national service partners to implement "Seniors for Schools" in for elementary schools. A total of fifty-two senior volunteers will participate, with thirty-two providing intensive service of more than fifteen hours weekly. Twenty additional senior volunteers will work in after-school programs or parental involvement efforts. A total of 200 children will benefit from the services of the senior volunteers. The high poverty rates in the communities targeted by "Seniors for Schools" have severe implications for reading resources available in the community, and the initiative will also increase the number of kindergarten through grade three books available in lending libraries by 200 books during the 24-month grant period. Working collaboratively with teachers, a learning specialist, and team members, the senior volunteers will primarily provide one-on-one tutoring to the children. This initiative will also develop systems to increase parental and community involvement. Currently, 380 children are being reached.

OKLAHOMA

Oklahoma Department of Libraries, 200 NE 18th Street, Oklahoma City, OK 73105, Telephone: (405) 521–2502, Contact: Robert Clark.

Number of AmeriCorps*VISTA members 11

Program Summary.—The Oklahoma Department of Libraries, a statewide AmeriCorp*VISTA literacy project, has successfully raised $75,000 in financial contributions and has received approximately 50,000 books by mobilizing community volunteers to organize 10K races, book bank drives, PSA's through local media, and letter writing campaigns. The books were donated to rural public libraries throughout the state of Oklahoma. In Tulsa, the AmeriCorp*VISTA members successfully implemented a campaign with the help of Southwestern Bell telephone company. Community volunteers picked up book donations and dropped them off at a local bookstore. Southwestern Bell then picked up the books and delivered them to community centers. In partnership with the Oklahoma Educational Television Authority, two members are coordinating the First Book project. The project promotes literacy and a love of reading by getting books into the hands of children. By targeting those living at or below the poverty level, members hope to reach children who may not own any books. Two thousand books were distributed during the first three months of the project.

OREGON

Metropolitan Family Services, 2200 NE 24th Street, Portland, OR 97212, Telephone: (503) 331–5924, Contact: Shirley McCormack.

Number of National Senior Service Corps volunteers	11
Number of AmeriCorps*VISTA members	2

Program Summary.—Metropolitan Family Services of Portland has sponsored a Foster Grandparent Program site since 1965. In 1995, the agency received an Experience Corps Demonstration grant, to use senior volunteers as resources to children in schools operating intergenerational projects, and successfully recruiting and retaining seniors to provide significant services. Through the "Seniors for Schools" Initiative, 300 kindergarten through third grade children in three Portland elementary schools are receiving extensive assistance in reading and literacy. An intensive corps of seniors are trained in "Success for All," a comprehensive reading program to help at-risk children read at or above grade level. Senior volunteer tutors work one-on-one with selected students on a regular basis. The Learn and Serve America project of Portland State University provides a series of training sessions that utilize the talents of the university students, while two AmeriCorps*VISTA members serve as liaisons, coordinators, and capacity-builders. AmeriCorps*VISTA may also take on special projects to increase resources for the initiative, involve the community, and form strategic partnerships to sustain the project. The Northwest Service Academy provides an AmeriCorps member who will also work in the program.

PENNSYLVANIA

Pennsylvania Literacy Corps, Henry Avenue and School House Lane, Philadelphia, PA 19144, Telephone: (215) 951–0343, Fax: (215) 951–0345, Contact: Harry Silcox.

Program Summary.—Service learning participants receive credit for English by tutoring second through fifth graders at neighboring elementary schools—one-on-one for three days each week. Over the 32-week course, 92,000 hours of service are performed for the community. The High School Literacy Corps is centered around the practice of peer/peer tutoring of elementary students by high school students three days per week. A High School Literacy Corps is composed of thirty students assigned to one teacher in an English classroom. Students are also required to complete one service project under the supervision of the teacher. Experienced program coordinators are hired to oversee and coordinate the program in each state. In all, the coordinator will work with twenty-three teachers and 760 tutors. The tutors will tutor 3,200 elementary children to improve reading skills. Each school receives specialized literacy materials, training of teachers, grants, and intensive training. In Pennsylvania, the concept of a literacy corps within a school has been developed in ten sites and is hoping to expand to an expected fifty elementary schools.

RHODE ISLAND

Community College of Rhode Island (CCRI), 1762 Louisquisset Pike, Lincoln, RI 02865, Telephone: (401) 333–7159 or (401) 333–7043, Contact: Dean Becky Yount.

Number of AmeriCorps*VISTA members	2

Program Summary.—Two AmeriCorps*VISTA members were placed with the Community College of Rhode Island which has campuses in Warwick, Lincoln, and Providence as well as satellite campuses. The members will develop an America Reads program for all campuses as well as a service-learning program at the Provi-

dence campus. Initial school districts to be targeted include Providence, West Warwick, Woonsocket, East Providence, and Warwick. These efforts will also be coordinated with the expanded federal work study program. At least 60 students in kindergarten through third grade will receive tutoring and mentoring; at least five CCRI faculty will implement America Reads activities as part of the service-learning component of their courses; and a volunteer fair will be held, involving at least 10 agencies seeking volunteers in which at least 50 students will participate.

SOUTH CAROLINA

South Carolina Commission on National & Community Service, Lander University & Upper Savannah Consortium for Child & Family Advancement, 303 Willson Street, Greenwood, SC 29649, Telephone: (864) 388–8110, Fax: (864) 388–8812, Contact: Kellye Vittone.

Number of full-time AmeriCorps members 20
Number of part-time AmeriCorps members 20

Program Summary.—AmeriCorps members tutor and mentor over 200 students ages 4 to 14 who are at high risk of school failure due to academic, self-esteem, and attitude challenges. Members also tutor 300 students ages 6 to 14 to help them achieve state standards in reading, math, and written language skills. An additional forty students ages 4 and 5 who are not ready to learn are tutored to achieve appropriate age level skills. Members also recruit additional volunteers, engage students in service-learning activities, and encourage and support parents and community members to utilize university resources. Members serve in one of eleven sites.

SOUTH DAKOTA

South/North Dakota Reads, Corporation for National Service, South/North Dakota State Office, 225 South Pierre Street, Room 225, Pierre, South Dakota 57501, Telephone: (605) 224–5996, Fax: (605) 224–9201, Contact: John Pohlman.

Number of Retired and Senior Volunteer Program (RSVP) members 64

Program Summary.—In Webster, eleven RSVP members are placed in five schools helping students get up to their appropriate grade level in reading. In Sturgis, eight RSVP members are placed in Sturgis Elementary School addressing the reading difficulties of students using the EDMARK reading/phonics program. In Pierre, twenty RSVP members are placed in elementary schools, Head Start centers and latchkey programs. This past summer, the Reading Buddy Program matched RSVP volunteers with children in grades one to three, who helped them with their reading once a week.

TENNESSEE

Tennessee Commission on National & Community Service, Nashville READ, Inc., 421 Great Circle Road, Suite 104, Nashville, TN 37228, Telephone: (615) 255–4982, Fax: (615) 255–4783, Contact: Carol Thigpin.

Number of full-time AmeriCorps members 20

Program Summary.—AmeriCorps members tutor 240 reluctant readers in grades one to three to increase reading comprehension; teach parents of 1,800 children how to assist their children in reading; and create book instructional aids for 1,800 parents to use at home. Members serve at one of twenty sites in Nashville. A total of 120 volunteers are utilized in service activities.

TEXAS

Houston READ Commission, 5330 Griggs Road, #75, Houston, TX 77021, Telephone: (713) 228–1801, Contact: Jeanette Manazero.

Number of full-time AmeriCorps members 60
Number of AmeriCorps*VISTA members 9

Program Summary.—The Houston READ Commission and the Houston Community College have partnered to allow federal work-study students to work as reading tutors for children at community-based and elementary school programs in their support of America Reads. The effort supports 60 full-time AmeriCorps members at 34 different sites, as well as federal work study students and VISTA's in partnerships with schools, recreation departments, congregations, libraries, and Girl Scout groups to match learners with reading partners using the Department of Education's READ*WRITE*NOW program materials. The AmeriCorps*VISTA members

are recruiting, training, and tracking participants to ensure sustainability and to measure progress.

UTAH

Salt Lake County Government Center, Edison Elementary School, 2001 S. State Street, Suite 32100, Salt Lake City, UT 84190–2710, Telephone: (801) 481–4846, Contact: Marsha Kellogg.

Number of federal work-study students 10
Number of AmeriCorps members 5

Program Summary.—Edison School is an inner-city school in which 97 percent of the students are at poverty level, nineteen languages are spoken, and twenty-two cultures are represented. Students at Edison typically fall behind a half grade level each year. Through the efforts of AmeriCorps members, Senior Corps volunteers, and other community volunteers trained in the Reading One to One Program, students receive up to 100 tutoring sessions per year.

VERMONT

Literacy in the Kingdom, 1 Vail Hill, Lyndon State College, Lyndonville, VT 05851, Telephone: (802) 626–6357, Fax: (802) 626–9770, Contact: Anne Brown.

Number of reduced part-time AmeriCorps members 20

Program Summary.—Twenty AmeriCorps members and numerous community volunteers are working in ten schools, libraries, and agencies to increase the literacy of children in the Northeast Kingdom of Vermont in kindergarten through third grade. The program is sponsored by Lyndon State College and is modeled after the New Zealand design of "PM Readers." The first goal of the program is to help children in Kindergarten through the third grade attain an ability to read and write at or above grade level. The second goal—which targets welfare recipients and under-employed and unemployed citizens—is to enhance adult literacy and problem solving skills.

VIRGINIA

Virginia Polytechnic Institute and State University, 202 Major Williams (0168), Blacksburg, VA 24061, Telephone: (540) 231–6947, Fax: (540) 231–6367, Contact: Michele James-Deramo.

Program Summary.—While continuing to place students at local non-profit agencies, schools, and organizations to meet identified community needs, the Service-Learning Center at Virginia Tech this year will foster faculty and student leadership through Faculty Innovation Grants, a Service Scholars program and a publication of faculty essays on the integration of technology and service-learning instruction. The Center's mentoring program will reach 300 youth in kindergarten through eighth grade using interactive technologies with the goal of improving the students' basic skill areas such as reading and writing.

WASHINGTON

Washington Commission on National and Community Service, Washington Reading Corps, 515 15th Avenue, SE, Mail Stop 43134, Olympia, WA 98504–3134, Telephone: (360) 902–0663, Contact: Bill Basl.

Program Summary.—Governor Locke has proposed a Washington Reading Corps that will mobilize 25,000 volunteers who will provide reading tutoring for 82,000 students under the direction of 5,500 teachers. Governor Locke has provided $23.8 million from the state budget for this effort. Tutoring will be provided before and after school, on Saturdays, and during the summer with each student receiving a minimum of 80 hours of instruction. Tutor and teacher training will be provided by the Superintendent of Public Instructions and the Educational Service Districts. Statewide plans to include AmeriCorps*VISTA, AmeriCorps*State and National, and the National Senior Service Corps in the America Reads effort have been developed and are in the process of being implemented.

WEST VIRGINIA

West Virginia Commission for National and Community Service, Energy Express AmeriCorps, West Virginia University Extension Service, 702 Knapp Hall, P.O. Box

6031, Morgantown, WV 26506–6031, Telephone: (304) 293–2694, Fax: (304) 293–7599, Contact: Ruthellen Phillips, Ed. D.

Number of part-time AmeriCorps Members 326

Program Summary.—Through an innovative summer program in fifty-five sites across the state, over 300 AmeriCorps members promote summer reading and writing skills & nutritional well-being for 3,000 low-income/rural school-age children, lead student community service projects, and ensure that all children obtain two nutritional meals a day throughout the summer months. Members also involve parents and community members as summer volunteers. In 1996, 71 percent of all children served increased in reading comprehension and more than 14,000 volunteer hours were contributed statewide.

WISCONSIN

University of Wisconsin-River Falls, RDI Building, 410 South 3rd Street, River Falls, WI 54022, Telephone: (715) 425–0608, Fax: (715) 425–4479, Contact: Florence Monsour.

Program Summary.—This consortium of six campuses in the University of Wisconsin system will advance service-learning across the state by partnering with a two year college and a kindergarten through twelfth grade school district. The program goal is to assist the partner institutions in developing service-learning programs which are accessible to all students and are jointly supported by Academic Affairs, Student Affairs, and Student Government. Each institution will submit a plan for implementing service-learning into teacher education and selected portions of their curriculum, and incorporating student affairs and student government into the service-learning efforts on their campus. During the first year, the project will provide training to teacher education faculty, additional faculty, student affairs staff and student government on how to implement service-learning and integrate it into the curriculum. During the second year, training will broaden to include partner two year institutions, and kindergarten through twelfth grade school districts will be added in year three. Many of the projects initiated and addresses will focus on literacy skills.

WYOMING

NOWCAP Foster Grandparent Program, 319 South 6th Street, Thermopolis, WY, 82003, Contact: Ilene Johnson.

Number of Foster Grandparents (FGP) 12

Program Summary.—Students in the Lander Public Schools have shown a major improvement in reading from the 1995–96 to the 1996–97 school year. This is in part due to the work of the twelve Foster Grandparents working with children in an innovative approach called Pegasus, a reading and language arts program in which grandparents help children in a one-on-one approach. Sixty first graders were tutored by twelve Foster Grandparents serving twenty hours per week for nine months.

PUERTO RICO

Consejo de Salud de la Comunidad de la Playa de Ponce, Inc., Foster Grandparent Program, P.O.Box 254, Ponce, Puerto Rico 00731, Contact Person: Ana A. Martinez.

Number of Foster Grandparents (FGP) 3

Program Summary.—In Ponce, more than 90 percent of those enrolled in public schools are at or below poverty level. Twenty-seven first through third grade students in Andres Grillasca Salas Elementary School were tutored by three Foster Grandparents in basic reading. The Foster Grandparents provided twenty minutes daily with their assigned student, for a total of nine students each.

EXAMPLES OF NATIONAL SERVICE PROGRAMS ADDRESSING LITERACY

Mr. WOFFORD. I would say, from my own point of view, the various programs in children's education and literacy are the proudest parts, ranking right now next to the disaster relief, alongside of the disaster relief work of AmeriCorps members.

Two-thirds of our AmeriCorps assignments, approximately, are in the broad field of education, and before the Presidents' Summit

in Philadelphia, the Corporation set the goal of effective education and literacy for every child. Before President Clinton proclaimed the idea of America Reads, our Board had concluded that this should be a priority of the Corporation.

Senator BOND. Do these AmeriCorps volunteers spend their time reading to children in the afternoons? What is their function? What is it that they do?

Mr. WOFFORD. I have to convey to you the array of different approaches because we do not organize these. These are competitive grants based on applications from local literacy programs.

The grants go to those literacy programs. They might be a university literacy program working with the school system. In some cases, it is a school system that applies. They have a great diversity in what they do.

Senator Nunn's daughter runs Hands On Atlanta, which has an outstanding record of more than 100 AmeriCorps members who run what has been awarded the highest recognitions around Atlanta for intense afterschool tutoring programs.

In some places, there is direct teaching. The Alliance for Catholic Education, run by Notre Dame in cooperation with the United States Catholic Conference, and the University of Portland have some 120 teachers, outstanding college graduates, who commit themselves to teach for 2 years on AmeriCorps terms of about $8,000 a year in living allowance in the hardest pressed Catholic schools of 9 Southern States.

They actually teach. They are not all in elementary schools, but the teachers in elementary schools, after training at Notre Dame and as part of earning a Master's in teaching, are doing direct, intense teaching of reading in hard-pressed minority-serving schools.

Senator BOND. While that is very important, it would seem to me that we will never be able to get enough AmeriCorps volunteers to read to all the children that need to be read to, that need to be tutored. I would expect that a program like this would utilize volunteers to organize much broader activities and to do community outreach.

I have spent a good bit of time traveling around my State to various school districts to read to children not for the purpose of my teaching a child to read but to emphasize to every adult in the community, whether it is a parent, a grandparent, an aunt, an uncle, a neighbor, or a day care provider, the importance of it. There just are not enough AmeriCorps volunteers to go around.

It would seem to me that utilization of these resources in an effort to expand community reading programs bringing in more participants from the community would have a much broader impact than attempting to use an AmeriCorps volunteer one on one.

It may be very good for the particular child or children who get the help, but we don't have that many AmeriCorps volunteers.

Mr. WOFFORD. Mr. Chairman, you stated the strategy and the purpose of the extra funds given last year and this year being requested for assistance to children's literacy through AmeriCorps.

All of the VISTA increase in the other committee is in the form of AmeriCorps*VISTA members who almost entirely do the organizing of programs, the recruiting of unpaid volunteers, exactly what you said. The Philadelphia Reads was launched yesterday by

Mayor Rendell with an outstanding literacy leader of the Nation who is going to be running it. Her key people are two AmeriCorps*VISTA members. So all of the increase in VISTA is in that form.

Most of the assignments that AmeriCorps members will have is the organizing of the volunteer tutors as the top priority. They may be work study or other college volunteer tutors. They may be volunteers from corporations. But the AmeriCorps members will be a cadre of leaders and organizers. It is the volunteer generator model that we are committed to in all parts of AmeriCorps, but especially in the reading initiative.

Senator BOND. That makes the most sense to me.

REDUCING COSTS AND THE EDUCATION-AWARD-ONLY PROGRAM

I have one last question for you. The appropriations bill last year required the Corporation to reduce the total Federal costs per participant in all programs. What affirmative steps have you taken to reduce the Federal cost per participant in the program?

Mr. WOFFORD. We also had the agreement of a 1½ years, going on 2 years ago, with Senator Grassley that we will bring down the average budgeted cost per AmeriCorps member from what was $18,000 approximately to $15,000 per member by fiscal year 1999.

We are completely on track on that, Mr. Chairman. We are at about $16,000 per member this year. We have achieved that by, first, setting for our own National Direct grants a cap that brings it down to that level. That includes, Mr. Chairman, the nearly $5,000 educational award in the $15,000, and the $10,000 covers the approximately $8,000 living allowance.

So it is a very lean system. It is getting very close to the VISTA model and the Peace Corps model of just supplying the people power and not additional, substantial additional support, except to startup programs.

We also have made a major breakthrough this year toward cost reduction by running with the ball that Senator Grassley threw to us of the model of not providing the living allowances from the Corporation or the Federal Government at all, but to leave the support of the AmeriCorps members to organizations that can sustain it and organize it. The Corporation contributes the education award of about $5,000. We started this on a larger scale shortly after Senator Grassley and I agreed to run with it. We had a pilot program which he knew about in urging us to move on that model. It had reached maybe the level of 1,500 in that form.

The President at the Presidents' Summit in Philadelphia challenged faith-based organizations and nonprofits, great nonprofits, to respond. We have now 14,000 of the AmeriCorps members who are going to be in that model, going on 15,000.

So if you see Senator Grassley before I do, you should tell him how grateful we are that he urged us on to what I think is one of the most promising tracks, the religious organizations. About 1,000 or more of these AmeriCorps positions are with the Methodists, and 1,000 with the Catholics, and so on. All told, more than 5,000 Education-Award-Only AmeriCorps members serve with faith-based organizations.

Senator BOND. I would ask you to submit that for the record, we can dispense with the listing.

Mr. WOFFORD. Yes; I would like to do so very much.

[The information follows:]

NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE UNITED STATES

1997–98 Placement of AmeriCorps members

The National Council of Churches anticipates that the following member communions and related faith-based community outreach programs will utilize the following numbers:

United Methodist	1,100
Catholic Church	1,000
Mennonite Church	450
Church of the Brethren	275
Black Denominations (e.g., African Methodist Episcopal Church)	1,000
United Church of Christ	270
Other smaller communions and faith-based communions	1,325

Smaller communions and faith-based communions include:

American Baptist Churches
Lutheran Church
Reformed Church of America
Presbyterian Church (USA)
Episcopal Church
Christian Church (Disciples)
Quakers (Society of Friends)

Note: All information is based on National Council of Churches' projections of placing 5,420 AmeriCorps members through their faith-based member communions.

The National Council of Churches does enroll from all its member communions and continues to encourage all their involvement in the program. Those communions are:

Member Communions of the National Council of Churches
African Methodist Episcopal Church
African Methodist Episcopal Zion Church
American Baptist Churches in the USA
The Antiochian Orthodox Christian Archdiocese of North America
Armenian Church of America
Christian Church (Disciples of Christ)
Christian Methodist Episcopal Church
Church of the Brethren
Coptic Orthodox Church in North America
The Episcopal Church
Evangelical Lutheran Church in America
Friends United Meeting
Greek Orthodox Archdiocese of America
Hungarian Reformed Church in America
International Council of Community Churches
Korean Presbyterian Church in America (General Assembly of the)
Mar Thoma Syrian Church of India
Moravian Church in America
National Baptist Convention of America, Inc.
National Baptist Convention, USA, Inc.
National Missionary Baptist Convention of America
Orthodox Church in America
Patriarchal Parishes of the Russian Orthodox Church in the USA
Philadelphia Yearly Meeting of the Religious Society of Friends
Polish National Catholic Church of America
Presbyterian Church (USA)
Progressive National Baptist Convention, Inc.
Reformed Church in America
Serbian Orthodox Church in the USA and Canada
The Swedenborgian Church
Syrian Orthodox Church of Antioch
Ukrainian Orthodox Church of America
United Church of Christ
The United Methodist Church

QUESTIONS FOR THE INSPECTOR GENERAL

Senator BOND. I appreciate your answers. I would like now to invite Ms. Luise Jordan to come forward to answer a few questions now as the inspector general.

Welcome, Ms. Jordan. I thought I would ask you to comment since we have been talking about the reforms that are necessary. I understand the Corporation has made additional progress toward balancing its books and straightening them out.

I would like to know your analysis of the Corporation's current status with regard to financial management and what steps still need to be addressed.

Ms. JORDAN. In 5 minutes or less?

Senator BOND. We will give you the opportunity to submit the full answer for the record. But I would appreciate just for the purpose of this discussion your summation of the areas where you think, overall, the progress has occurred. Has the progress been good? If not, what is lacking? What needs to be done.

Ms. JORDAN. The progress has been slow. I am not so sure that I would characterize it as always good. Progress has been made, but often I believe progress has been the result of external forces. There is a commitment that has been ongoing for the last 3 or 4 months to improve not only financial management but the management of the Corporation overall.

As far as the new plan is concerned, auditability is a good goal and a clean opinion is an admirable goal. But I would not advocate that alone. I would advocate good financial management overall; and, as a result of good financial management, auditability and clean opinions on the Corporation's financial statements would automatically come.

Overall management in other areas—in my semiannual report, I have talked about the need for better oversight of the grants, I have talked about the need for better audit followup, and I still believe that these are other issues the Corporation needs to address. They are addressing them. But the progress has been slow.

Senator BOND. We will want your continued assessment. We have a process here that I hope will provide progress that is no longer slow and that is more frequently good.

So this is a challenge to Senator Wofford and his staff, and we need your continuing oversight to give us an idea on how effective the reforms and the plan is.

Mr. WOFFORD. We need her assessment and help as she has been giving it actively. We will be working very closely with the inspector general.

We will get it done, Mr. Chairman.

Senator BOND. We will count on you doing that.

I think that the rest of the questions can be handled by submission. On behalf of all of my colleagues—there are many other things going on today—I will tell you that we will leave the record open to allow them to submit questions.

Obviously, there are certain things that we asked today that may require a fuller explanation and we would welcome that from you, Senator Wofford, and from you, Ms. Jordan.

SUBCOMMITTEE RECESS

Thank you very much.

The hearing is recessed.

Mr. WOFFORD. Thank you, Mr. Chairman.

[Whereupon, at 11:53 a.m., Thursday, March 5, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENT OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, MARCH 12, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:36 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Christopher S. Bond (chairman) presiding.

Present: Senators Bond, Burns, Craig, Mikulski, and Lautenberg.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

STATEMENT OF ANDREW CUOMO, SECRETARY

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. The Senate VA, HUD and Independent Agencies Appropriations Subcommittee hearing will come to order.

My good friend and ranking member, Senator Mikulski, has fallen victim to the heavy Washington traffic this morning and suggested that we get started.

I want to welcome Secretary Cuomo and our other guests for being with us this morning. Secretary Cuomo will be testifying on the President's fiscal year budget request for the Department of Housing and Urban Development, followed by Under Secretary John Hawke, Department of the Treasury, and Ms. Ellen Lazar, Director of the Community Development Financial Institutions Fund, who will be testifying on the fiscal year 1999 budget for the Community Development Financial Institutions program.

PRESIDENT'S BUDGET REQUEST

The President's budget request for HUD proposes a budget of $25 billion for HUD which is an increase of some $900 million over the fiscal year 1998 appropriation of $24.1 billion. As always, these budget numbers tell only part of the story. Despite a number of questionable assumptions in the President's budget request, this subcommittee is confronted with the very difficult task of complying with the discretionary budget caps established in last year's budget agreement which provide for no real growth in nondefense discretionary spending.

In particular, this subcommittee will need to meet the increased EPA costs, including calls for increased funding for Superfund cleanup, to meet escalating costs for the international space station, to fund fully veterans medical and benefit needs, to fund adequately elderly and disabled housing, which is never provided adequately for in the President's budget, and to provide the funding necessary to pay for both the expanding costs of FEMA disaster relief, as well as the exploding costs associated with the renewal of expiring section 8 contracts.

2020 MANAGEMENT REFORM PROGRAM

First, Mr. Secretary, I want to compliment you on the progress that you are making in implementing HUD's 2020 management reform plan which is designed to rebuild public trust in the Department through management and program reform, in conjunction with downsizing the Department from 13,000 staff in 1992 to 7,500 staff in 2002.

We have discussed the need to maintain adequate staffing to ensure there is quality in the delivery of HUD program services during this transition, and I know you share my concerns that the success of each program must remain the primary concern and focus of the Department as you continue to implement the administration's staff downsizing requirements.

I see a number of our friends from the Department of Housing and Urban Development here. I would like you all to stand up and be recognized. Would everybody from HUD stand up? How many have we got here? Well, thank you all very much for being here. Obviously, we have not downsized too much. [Laughter.]

But I want to express to all of you through the Secretary our appreciation for the heavy workload that you are carrying and for the difficult tasks ahead. With downsizing comes added responsibility on the men and women of HUD. Please know that while we are looking very carefully at your work, we do appreciate your hard work and we look forward to working with you to achieve the goals that we all share.

There is much to be done. HUD is responsible for over 240 programs and activities, including such important programs as the public housing program, the section 8 program, the Community Development Block Grant program, the HOME program, the McKinney Homeless Assistance programs, the section 202 and 811 programs, and the FHA mortgage insurance programs.

Some liken HUD to the tragic sinking of the *Titanic*. Only here we have the ship of HUD with a cargo of important housing and community development programs that is steaming toward a better world. Instead of making port, this ship of HUD is torn apart by structural weaknesses and deficiencies in HUD's housing and community development programs, as well as an overload of activities and programs. The question for you, Mr. Secretary, is whether you as captain of the ship of HUD can correct the damage and change the course in time to save the ship.

We do not know yet, but I am reminded, however, that HUD has had many captains and course corrections over the last few years and there are still problems with the ship. Further, I am reminded that HUD continues to be designated by GAO as a high-risk area

vulnerable to waste, fraud, abuse, and mismanagement, and both the HUD inspector general, whom we are delighted to have with us, and the National Academy of Public Administration have identified substantial concerns with HUD's ability to administer its programs and meet its statutory requirements. These concerns must be resolved.

LARGEST FINANCIAL INSTITUTION

As a matter of fiscal responsibility, HUD is one of the Nation's largest financial institutions with sizable commitments, obligations, and exposure. HUD is responsible for managing more than $400 billion worth of insured mortgages, $485 billion in outstanding mortgage-backed securities, and some $180 billion in prior year's budget authority for which it has future financial commitments.

Moreover, there are a number of obvious program and management deficiencies that currently threaten HUD like the iceberg threatened the Titanic, some above the surface and some below the surface. For example, I commend your leadership, Mr. Secretary, for HUD's diligent efforts to identify and reserve all excess section 8 contract reserves. Last year HUD made a surprise announcement of finding $5.8 billion in excess section 8 contract reserves held by public housing authorities. This year the HUD fiscal year 1999 budget recommends using the remaining $3.7 billion in excess section 8 reserves to help fund the $10.9 billion needed to fund all expiring section 8 contracts in fiscal year 1999. That is responsible budgeting and I appreciate what you are doing.

MARKET-TO-MARKET LEGISLATION

In addition, I worked with you, as well as a number of other members of this subcommittee, particularly Senator Mikulski, and the Banking Committee with Senator D'Amato, Senator Mack, Senator Sarbanes, and Senator Kerry, to pass successfully the section 8 Mark-to-Market legislation that will restructure the funding of section 8 project-based multifamily housing to reduce the costs of housing and preserve this housing for low-income families, especially the elderly. That is another important achievement.

Nevertheless, within the next 10 years we will have the financial reality that it will require more than $20 billion a year to renew all expiring section 8 contracts. This cost is without any new incremental section 8 contracts. However, despite this cost and concern, I am now to understand that HUD's mismanagement of the section 8 voucher program has resulted in unauthorized and likely illegal use of a substantial number of section 8 vouchers in a number of areas.

For example, I understand, at a cost of some $90 million per year, some 13,000 vouchers, out of 77,000 vouchers, in New York City were illegally issued and are currently in use. I also understand that it is possible that there are as many as 50,000 illegally authorized section 8 vouchers currently in use, and a financial obligation of this subcommittee?

On top of this, HUD is now coming in and asking for an additional 100,000 new incremental vouchers. I think it is clear that we first need to understand how many legal and illegal vouchers are

currently in use before we start talking about funding new incremental vouchers.

MC KINNEY HOMELESS CONTINUUM OF CARE PROGRAMS

Second, there is The McKinney Homeless Continuum of Care programs that I support. Nevertheless, these programs appear to be in substantial financial distress. Last year because of apparent mismanagement at HUD, HUD ended up issuing three separate notices of funding availability, or NOFA's, with separate requirements to award the same fiscal year 1997 homeless assistance funds. This confusion has left a number of local homeless assistance programs in disarray with the result that I have heard complaints from around the country about good programs being rejected for the renewal of McKinney homeless assistance funding without cause.

For example in Missouri, a major concern, the Kitchens program in Springfield, MO, was rejected for the renewal of its homeless assistance grant despite its longstanding and successful participation in HUD's homeless assistance programs. It is a program of consistent high quality and there is a demonstrated need in the community. Without these funds, Kitchens as the available food supply and feeding program for the homeless may have to close its doors. That is a serious problem and a tragedy. Certainly, we know of other failures by HUD to fund what appear to be successful and important homeless assistance programs, but Kitchens I know works well and the failure by HUD to fund this program is a grave concern to me.

FISCAL YEAR 1997 EMERGENCY SUPPLEMENTAL

Finally, a new red flag on the horizon, as if we did not have enough. The fiscal year 1997 emergency supplemental, as you will recall, provided HUD with $500 million in emergency CDBG funding intended to complement the funding of disaster relief under FEMA and other disaster relief programs. This $500 million was an unprecedented amount of emergency CDBG funding and HUD's implementation of this program continues to raise significant issues regarding the use of objective criteria and questions of accountability. I expected and my staff has requested on a number of occasions a full accounting by HUD on the procedures and process for allocating these funds, as well as a specific accounting of all grant amounts, activities, grantees, and beneficiaries. We have received only minimal information at best and certainly not the amount or quality of information needed to evaluate the use of these CDBG funds.

Accountability is critical, especially since Congress currently is considering a fiscal year 1998 emergency supplemental in which disaster relief is a prominent component. This subcommittee especially needs information on this program, as on all other programs, in order to evaluate their worth and value.

To be quite frank, Mr. Secretary, I think we have a common interest in making HUD's housing and community development programs both work well and be financially responsible. We can only do this with your cooperation and help. We look forward to working with you and we appreciate the cooperative attitude that you and

your top management have had. I understand, that is why I recognized the members of HUD, that we have a very difficult task that we have to pursue and we will only succeed by working together.

Finally, I emphasize the continued need of the Department to redirect the responsibility for HUD programs and activities from the Federal Government to State and local decisionmaking. Programs like CDBG and HOME work well because of local control and decisionmaking where HUD is, at most, the junior partner in directing the use of block grant funds.

This is critical. No longer can or should the Federal Government do it all. We cannot do it all. The future of successful housing and community development resides at the State and local level where other State, local, private, and nonprofit resources can be leveraged to expand the availability of affordable housing and to create new economic development initiatives. Most important, State and local decisions respond best to State and local needs.

We look forward to hearing your comments, but first it is my pleasure to turn to my distinguished ranking member, Senator Mikulski. Welcome, Senator.

STATEMENT OF BARBARA MIKULSKI

Senator MIKULSKI. Thank you, Mr. Chairman, and let me begin by welcoming the Secretary of HUD, Mr. Andrew Cuomo, for his second hearing before this subcommittee and a welcome to his entire team, the Budget Officer and others who operate HUD, and also to the inspector general, Ms. Gaffney, whose valuable advice has been enormously helpful to both me and this subcommittee.

I also want to extend my welcome to the new Director of the Community Development Financial Institutions Fund, Ellen Lazar. Ms. Lazar is a constituent of mine from Maryland who worked several years for the Maryland-based Enterprise Foundation which was really founded by the great visionary for urban economic development Jim Rouse. We look forward to hearing from her and John Hawke, the Under Secretary of the Treasury.

Mr. Chairman, both HUD and CDFI are agencies with a mission to help improve the conditions of local communities. Ultimately this is a job of a Federal agency to help local communities be able to help themselves and provide opportunity structures that help people who practice self-help.

I have worked with four Secretaries at HUD and I want to ensure that we will continue to work with Mr. Cuomo to make sure that HUD fulfills its mission and that there are financial and human resources available to do so.

First, I want to commend the Secretary and his new staff team for producing and submitting the HUD budget to the committee on time this year, which was a major breakthrough.

I also want to commend him for submitting a budget that shows a strong commitment to several programs that I think are important to local economic development, but also to take important steps in management reform while streamlining the work force. That is not always an easy job, and we want to thank him for the important first steps and additional steps that he has taken under the HUD stewardship. So, we look forward to working with him on this.

ISSUES IMPORTANT TO ECONOMIC DEVELOPMENT

There are several issues which I think are important to economic development that emerged over the last few years: the HOPE VI Program which is vital to rebuilding urban communities with a new approach to public housing, the Brownfields Program which could be a significant tool to older communities both urban and rural, and then, of course, the lead abatement program which is very much important for public health.

I know, Mr. Secretary, that you are working hard to try to make HUD more effective and efficient. So, we will look forward to hearing from you about your reforms.

IMPLEMENTING THE FAIR HOUSING ACT

But let me tell you my yellow flashing lights. Part of HUD's fulfilling its mission to help people have safe and decent housing is to assist in efforts to eliminate illegal and despicable housing discrimination. That is why we look forward to how the Fair Housing Act is being implemented, but I also want to be sure that in implementing the Fair Housing Act we do not ultimately end up in a situation whereby the way it is being implemented denies opportunity to the very people we want to help.

I want to focus on the disabled housing program because I do not believe—and look forward to hearing from you what clear guidance has been provided to State and local entities and particularly the builders of housing that will house not only the special subsidized programs for the disabled but the private market and to be sure that they have clear guidelines, consistent regulations, and a reliable way of enforcing so that the supply is available while we guarantee removing the barriers of access, both architectural and attitudinal.

Second, we also want to be clear that we are concerned about the issue around the 202 elderly housing program. I am concerned about the proposed cut of nearly $500 million to the 202 program. We have an increasing population of elderly Americans who are aging in place and we are deeply concerned about the cut.

But also I do not think they have come up with any new ideas for housing for the elderly. I think giving them the money, they will build, and they will come. So, we want to be sure that there is new thinking as well as adequate resources.

In my own community, a faith-based organization Catholic Charities is trying to see how they could, for people with very modest incomes, provide the same kind of continuing retirement community that the more well healed have, that the services are there, that there is the social service coordinator.

Across the street from my former home in Fells Point were faith-based units that were built called Lemco. When people moved in, they were 60. They did not move out. They are now 80. The building is getting old. The people are getting old and so are our ideas. I think we need to make sure that our ideas on housing for the elderly do not age in place the way the seniors are themselves.

I also want to make sure that the vision and mission of HOPE VI does not get lost and diminished. As you know, there have been accusations that these projects are expensive, that they are lavish,

that it is costing $300,000 to build a townhouse. This does not seem like what HOPE VI is, and we would like clarification on that and look forward to hearing what your management suggestions are to improve accountability in HOPE VI so we can continue the program as a new tool.

Also we look forward to hearing about the brownfields. I know that Senator Lautenberg has been a tremendous leader in the Superfund sites, but it is the brownfields that offer us the most tools to recover land and to be able to move on.

Those are the kinds of questions that I would like to raise with you in this hearing. Questions related to CDFI I will save for a later time. But I think you have got a real momentum going on at HUD both in terms of mission, management, and stewardship over the money. If we could deal with some of these yellow flashing lights, I think it will even be able to move us more forward in the same vigorous way that you have brought to the program. You have really brought a vigor that I appreciate.

Senator BOND. Thank you very much, Senator Mikulski.

Now, following the early bird rule, our next early bird was Senator Lautenberg.

Senator MIKULSKI. The early bird special.

Senator BOND. Yes; we hand out worms to late early birds. [Laughter.]

STATEMENT OF FRANK R. LAUTENBERG

Senator LAUTENBERG. Thanks, Mr. Chairman, Senator Mikulski. I appreciate the opportunity to register some comments on HUD's fiscal year 1999 budget request, and I want to welcome Secretary Cuomo to this hearing.

The administration has worked hard under his diligent guidance to restore accountability and credibility at HUD, and we have talked about things many times, Mr. Secretary, and I congratulate you on your efforts.

Although the task is not yet completed, it is safe to say the atmosphere at HUD is far different today than it was just a few years ago. The chairman was very specific as he outlined some of the problems that we have to deal with. I sense, Mr. Chairman, that the Secretary is prepared to take on these assignments, as a matter of fact, with some vigor and some gusto, if we can use the expression, to straighten things out. We want the agency to function as it should. It is a very important place in our society.

UNSUBSIDIZED HOUSING

But as we sort through the HUD funding for the coming year, I want to ask my colleagues to keep a few housing statistics in mind. From a 1997 study at Harvard, we found that two of three extremely low-income households now live in unsubsidized housing. Eighty percent of those households pay more than one-half of their income for housing or live in structurally inadequate housing. At least 4 million families nationwide are on public housing waiting lists. Roughly 10 million households are eligible for housing assistance but do not get it. For every family in public housing, there are seven that qualify but do not receive assistance.

It is fair to say these numbers speak for themselves. They clearly illustrate that we must do more to improve housing opportunities for Americans whose basic housing needs are not being met.

I am pleased that HUD's fiscal year 1999 budget request works toward this goal. It requests the largest level of funding ever for homeless assistance. It proposes new vouchers to help people find affordable housing and seeks to help more Americans become homeowners.

ECONOMIC DEVELOPMENT NEEDS

I am also pleased that HUD's budget request emphasizes our Nation's economic development needs. In my discussions with New Jersey's mayors, the conversation always turns to the following: How can our cities increase economic development opportunities and produce more jobs so that we can get more ratables and establish a more stable urban life?

HUD's budget request tackles this question head on. The administration has proposed several innovative ideas to meet these challenges such as vouchers to help people move from welfare to work, the community empowerment fund to provide businesses with startup capital in the urban centers to create jobs, a second round of empowerment zones, and increased funding for brownfields. Senator Mikulski highlighted the value of brownfield restorations. We want to get these sites converted to go from contaminated sites to usable, income producing, job producing sites.

So, Mr. Chairman, I look forward to working with you and Senator Mikulski throughout this appropriations season, and I thank Secretary Cuomo once again for these initiatives, hard work, and results that we have seen thus far.

Senator BOND. Thank you very much, Senator Lautenberg.

Senator Craig.

Senator CRAIG. Mr. Chairman, I have no opening comments. I am here to listen and I have several questions to ask when we get there. Thank you.

Senator BOND. Well, thank you very much.

With that, Mr. Secretary, let us turn to you for your statement.

STATEMENT OF ANDREW CUOMO

Secretary CUOMO. Thank you very much, Mr. Chairman, ranking member, Senator Lautenberg, Senator Craig.

First, let me take this opportunity to first thank the committee for all the good work that we have been able to do together. I think the reflections of the committee are correct. We have made significant progress this past year, and I think that is because of the relationship and the cooperation that we have enjoyed both on a principal level and a staff level. I am excited about what we have done. I am more excited about what we can do together.

MARK-TO-MARKET LEGISLATION

The Mark-to-Market legislation that we passed last year, Mr. Chairman, was an historic piece of legislation. We were trying to get that done for 4 years. It was the first major piece of housing legislation in 5 years, and it was probably one of the thorniest

issues that we faced as a Department. It was a very controversial issue. If we could address the so-called Mark-to-Market problem, we can address anything together.

You pointed out that we have the whole HUD team here. I wanted to bring them because many of them are new members and I wanted to give the committee an opportunity to put a face with a name. I also wanted them to hear the sentiments of this committee so when we go back and do our work, they have heard firsthand your points and your concerns.

I have a quick presentation for the committee that gives you a brief outline of what we are talking about. The committee has made it clear to keep the presentation relatively short because we have a limited amount of time, and I will go through that at this time.

But, as a general comment on the opening statements that the committee made, I think both points are fair. We have made real progress. This is a fundamentally different Department than it was just 1 year ago, but there are also yellow lights, to use the ranking member's expression, icebergs ahead, to use the chairman's expression, but I think what is important is we see them. The iceberg in and of itself is not life-threatening unless you do not see it. We see them. We see the yellow lights and I believe we have altered our course to go around them. I think you will start to get that sense in this presentation.

NECESSARY REFORMS

In 1997 when I came before you for the appropriations hearing, your mandate was clear. You said, Mr. Chairman, at that time, "We challenge you to make the necessary administrative, management, and fiscal reforms that will justify Congress' continued support of the agency." Ranking member Senator Mikulski said, "This is what we are looking for, which is to stick to the mission. Let us make sure we make wise use of the money and really pursue those management priorities that I know you have in mind."

We heard that message. We internalized it. We acted upon it. We had a two-step process. Step one, clean HUD's own house. Before we can get back into the housing business, we said we had to clean our own house. Then, step two was get back to the business of housing.

CLEANING UP THE DEPARTMENT

As far as step one is concerned, cleaning up the Department, we have embarked on our management reform which we religiously performed for the past year. HUD today is leaner and stronger than it was 1 year ago. We are now down to about 9,200 employees. We have a plan that gets us to 7,500 by the year 2002 with program consolidations as well as legislation which would be necessary from this committee. But the HUD today is a much different HUD, a much stronger HUD.

We have cracked down on waste, fraud, and abuse. There has been a 325-percent increase in what we call debarments, which are actions against the bad landlords, bad actors, that we have been dealing with for a long period of time. We basically kicked them out of the program. That is a debarment. That is up 325 percent.

We have in place for the first time a national evaluation of our portfolio: What do we have out there, what does it look like, how it is run—public housing, multifamily. We could not tell you 1 year ago. We cannot tell you comprehensively today. This time next year, we will with the first national physical evaluation of our portfolio and financial assessment.

FISCAL YEAR 1999 BUDGET

As you mentioned, this is the first year we had our budget in on time. OMB said we were the first Federal Department to have our budget in on time, not always an honor that we were able to claim. We have done a lot of work on the financial side. We have moved from 89 systems to 1 integrated system, so the numbers add up at HUD.

We are changing the focus to client responsibility. We have a new community builder which is a customer relations acknowledgement, and we are doing a lot with new technology. We won the Harvard Kennedy School of Government Award for use of technology—Innovations in Government Award—which is the first such award that HUD has ever won.

EXCELLENT VISION FOR A NEW HUD

We brought in Booz Allen. There were a lot of opinions on how the management was going depending on your perspective and your stance and your outlook in life. We brought in Booz Allen to get a definitive view of how the Department is doing in terms of management reform. They will be issuing a report shortly. We have the draft inhouse. And the sum-up quote is, ''HUD appears to have an excellent vision for the new HUD and in early 1998 appears to have made excellent progress toward achieving the management reforms that are critical to making the Department perform effectively.'' And that is Booz Allen who, when it comes to this, most people would say are an authoritative source.

Step two then—what you start to see in this budget—and it is a budget that we are excited about—says we have started the management reforms. We have made good progress on the management reforms. We are not saying we are done with the management reforms. We have a lot more to do, but now we can start to get to step two which is getting back into the business that the Department was meant to. Two steps. One, get back into the housing business. Step two, putting the UD back in HUD, the ranking member's point. HUD at one time did a lot in economic development, urban development. We lost that capacity over the past decade. We want to reenergize that.

As far as the urban development, the economic development, Senator Mikulski's point, this economy is going great guns. Fifteen million new jobs, signs of economic progress everywhere, but when you look at where those jobs are being created, they are not being created in central cities. Only 13 percent of the jobs are in central cities. So, the economy is going very well. It is not doing especially well in cities. Put on top of that the demands for welfare reform. It will make a bad situation worse.

For example, the city of Philadelphia has an excellent mayor—Mayor Ed Rendell. Over the past 2 years, with the strongest econ-

omy in history, Philadelphia lost 600 jobs. Great mayor, best economy in history. They lost 600 jobs. How many do they need for welfare reform over the next 5 years? Fifty thousand jobs.

In Detroit, they are 75,000 jobs short just to meet the needs of the people coming off welfare.

In St. Louis, they are 7,000 jobs short just for the people coming off welfare, and that is with the strongest economy.

Cities are often at a competitive disadvantage today in competing for businesses and jobs. We are saying let us work with the cities the way we did at one time to get those jobs back in the cities, and we have some ideas to do that.

HOUSING

Getting back into the housing business, the housing picture is very clear. Fiscal year 1996 is the first year since they started keeping numbers that the production of affordable housing in this Nation went below zero. Fiscal year 1996 was the first time since they started keeping numbers. In every other year, we have produced more units than we lost. We produced at one time 300,000 units per year, 200,000 units per year in the 1970's and the 1980's. In 1996, we went to a net negative, first time in history, with the strongest economy. When we had slower economies, when we were in recession, we were building more affordable housing than we are building today.

Well, maybe we do not have the same need, one could query. Actually we have the highest need that we have ever had in history. So, you have two facts coincident: the lowest production of affordable housing and the highest need in history. That is the story of housing as we stand here today with the Department whose first name is housing.

RESERVE ACCOUNT

On some of the points that were raised, if I could just touch on them quickly, and I understand, Mr. Chairman, that time is limited, but the chairman made a point on the section 8 program, which is a major piece in our budget.

The section 8 program operates with a reserve account. The reserve account was the subject of much scrutiny last year, as the chairman pointed out, that it was hard to define how much remains in reserves. We went back to the reserve account. We worked on the reserve account. We came up with the specific number, and that number in the reserve account was eligible for housing authorities to lease section 8 units against. That was the Department's policy. In other words, the housing authority had a reserve account. They could use that reserve account to issue section 8's.

NO LEASING AGAINST RESERVE ACCOUNT

When we worked together last year to clean up the reserve accounts, one of the things the committee said was we do not want them using those reserves to lease against anymore. We said fine. We put out a new notice that said no longer lease against the reserve account. That practice must stop. We put out that notice.

Several weeks ago, there was a very strong response from housing authorities against that notice because they said you would actually be displacing people. We got significant concern from certain Senators saying you would be displacing people, and that was not the intention.

So, as an administrative reform, we said you could no longer lease against that reserve account. The response was we would be displacing people, and the position the Department took last week was those units that you have already leased you can keep, but you cannot lease any more units. We thought that was the best compromise position without actually displacing people.

The 50,000 vouchers, section 8's, that you referred to are against those leased reserve account. The reason we know about it is because we fixed it subject to our work from last year. The 50,000 are on a base of 1.4 million that are issued.

When you use the word illegal, Mr. Chairman, the committee does not authorize a number of units under section 8. It authorizes a dollar amount, and these units were all authorized within that dollar amount, so they did not exceed the dollar amount.

I just wanted to clarify that and I will conclude quickly.

HOME OWNERSHIP

We think in the housing agenda, one of our main thrusts is home ownership. Home ownership is at a record high in this Nation at 66 percent. At the same time, there is significant disparity when you look at who does own homes. Home ownership in the suburbs is at 73 percent. In the cities, it is at 49 percent. Whites are very high at 71 percent. Women are lower at 51 percent. African Americans are lower still at 43 percent. Hispanics are lower still at 41 percent. The FHA loan limit increase would start to get at that.

HIGHLIGHTS OF BUDGET

I have further highlights of our budget, and I will conclude.

Homeless assistance had a record increase at $372 million because that is a program that is working. We want to invest in that.

Public housing. We would go to 100 percent of operating expenses for the first time.

The HOME program, which is a program that is working well, we're requesting a $50 million increase, and then start something called the HOME Bank which would allow us to loan money to a local jurisdiction up to five times of their HOME allocation. We are doing this with the CDBG program and section 108. It works extremely well.

We would raise the FHA loan limits which will get more people housing and actually make money at $225 million.

And we would increase the Fair Housing budget because home ownership is going up and the home ownership rate is a great American story as long as it works for everyone.

On the economic development side, the Community Empowerment Fund which is the economic development aspect of the Department, we request $400 million.

We are requesting 50,000 welfare to work vouchers. Again, Mr. Chairman, I believe the issue for the cities is going to be welfare and whether it works or not. How do you get people from welfare

to jobs? And 50,000 welfare to work vouchers, where we could give a person a voucher and let them actually move to an area closer to work, would be a significant tool.

CDBG, which is a program that works well, we're asking for a $238 million increase.

Brownfields is the No. 1 concern of the Conference of Mayors.

And we have $100 million for regionalism awards. Every academic, all the best practices will say we have to move to regional approaches, getting cities to work with the outlying counties, and we as the Department want to start to articulate that principle and move forward on that.

These are the highlights of the budget. It is the best budget from our point of view that has been proposed in a decade. We believe we can find the money within our sphere, and we understand, Mr. Chairman, the overall constraints on the committee. We are trying to work just within the sphere that we control, and we think we can find the numbers to make this budget work within our own domain.

But again, let me thank the committee for all their good work, for the cooperation and partnership. We look forward to the same productive year going forward this coming year that we had last year. Thank you.

[The statement follows:]

PREPARED STATEMENT OF SECRETARY ANDREW CUOMO

Chairman Bond, Ranking Member Mikulski, members of the Subcommittee: thank you for inviting me here this morning to share with you HUD's 1999 budget proposal. If it pleases the Subcommittee, I would like to enter my testimony for the record. Thank you.

HUD's 1999 budget proposal represents the second step of a two step process we're undertaking to restore the Department's capacity to fulfill its mission of empowering communities across the country. The first step of that process was carried out last year and is still underway. HUD is focusing its energy on reform, reinvention, and renewal. In 1997 and now in 1998, the Department is devoting itself to reorganizing its functions, streamlining its workforce, and cracking down on waste, fraud, and abuse of HUD programs.

This 1999 budget proposal—the smartest and strongest budget in 10 years—builds on the progress HUD has made over the last year and a half in proving competence and restoring public trust in the agency. The budget reflects the President's belief that HUD today is smaller, faster, and more efficient than it was a year ago. We have requested some $1.8 billion in funding for program activities directed toward two fundamental goals: producing jobs and economic opportunity and expanding housing opportunities for low and moderate income families.

The budget increase will not, however, support new programs. It will not support new bureaucracies. It will not be wasted on programs that are fundamentally flawed or blatantly abused. This new funding will support only those programs that have proven successful and those programs that have been improved or enhanced by design changes. In other words, HUD will put the new funding only where it works best to fulfill our mission.

All told, the 1999 HUD budget represents not just a shift in policy, but a shift in philosophy. This budget seeks to change HUD's role from Washington director to community empowerment. Not with federal mandates, but with a federal menu of opportunity. Not with solutions driven from the top-down, but from the bottom-up. Not with a one-size-fits-all mentality, but with action plans written by and tailored to local communities. HUD's goal is not to tell communities what to do, but to help communities do what they want to do. In the process, it takes partnership to a new level—by setting aside part of the CDBG program to encourage cities and counties to work together on a regional level to solve problems.

MANAGEMENT REFORMS LAY THE GROUNDWORK FOR BUDGET INCREASES

Before I outline our funding requests, let me explain in a little more detail the foundation of reforms on which we built this budget proposal. President Clinton's second-term urban agenda recognized that the mission of HUD was as vital as ever, but the Department itself faced a competence gap that compromised its ability to fulfill that mission. Decades of neglect left HUD with the dubious distinction of being the only federal agency designated as "high risk" by the General Accounting Office (GAO). What's more, HUD's main rent subsidy program for the poor, Section 8, was on the brink of becoming the next savings and loan scandal, with grave consequences for more than four million low-income Americans who depended on the program for a place to live.

At the President's direction, and with the Vice President's guidance, we didn't set out to defend the problems, we set out to fix them. Our efforts have focused on closing the competence gap by eliminating waste, fraud, and abuse. We are partnering with the Justice Department to crack down on bad landlords. We partnered with the FBI to create a new Enforcement Center. We are creating an Assessment Center that will inspect all HUD properties nationwide for the first time.

And, drawing on the lessons of the private sector, we consulted with reinvention experts James Champy and David Osborne to implement the most sweeping reform plan in HUD's history. In conjunction with our unions, we enacted a plan that clarifies HUD's mission, streamlines its operations, improves customer service, harnesses new technology, and infuses a new generation of talent called "community builders."

Most importantly, this plan is moving from the drawing boards to reality. HUD has undertaken exhaustive consultations with affected stakeholders, including public housing authorities and resident groups, multifamily project owners and lenders, HUD's Inspector General and Members of Congress and their staffs. HUD has overcome tremendous institutional inertia and built a momentum for change that will carry the implementation of the Plan forward. I am happy to report significant progress has already been achieved.

—Through unprecedented employee personnel actions such as buy-outs and personnel reorganization, HUD has been able to streamline staffing and reorganize operations. HUD's workforce (funded by the Salaries and Expenses account) is now approximately 9,000, down from 10,500 at the end of 1996. To date, HUD has posted and filled 1,100 positions and hired 90 percent of new managers for the new organizational structure, while executing 1,000 buyouts to downsize the agency. The Department also negotiated an historic agreement with the employee unions to staff the new streamlined HUD with no layoffs before 2002.

—Four FHA Single Family Homeownership Centers are already operational. By April 1, all 18 FHA Multifamily Program Hub offices will be operational.

—Public and Indian Housing already has 27 Program Hubs and 16 Program Centers operational. By August, 1998, the Public Housing Grants Management Center and Troubled Agency Recovery Centers will also be operational.

—The Assessment Center is currently using its new physical inspection protocols and hand-held computers to inspect a sample of public housing and multifamily properties.

—The Section 8 Financial Management Center will be fully operational and handling 100 percent of the Section 8 financial processing by October, 1998.

—The Enforcement Center has already begun working on cases. Four Assistant U.S. Attorneys have been detailed to the Center.

—More than 300 Community Builders from existing HUD staff have already been selected. Their training will has just begun and the first training sessions at Harvard University's Kennedy School of Government will take place in August 1998. Outside hires of 230 Community Builders will also be completed by August.

THE BEST HUD BUDGET IN A DECADE

HUD undertook management reforms to improve administrative capacities, and with the realization that we must put our own house in order before we can truly fulfill our mission. HUD has worked to restore public confidence to win more resources to create jobs, stimulate economic activity, house low and moderate income Americans and end the plague of discrimination.

The Clinton Administration has taken note of the progress that HUD has made in reforming itself. The result: the best HUD budget in a decade. New funding for HUD is increased by $1.8 billion, a significant increase for program activities. Consistent with the Government Performance Reform Act (GPRA), new funding will be directed to achieve objectives outlined in HUD's 1999 Performance Plan. Taken as

a whole, the budget reflects two very clear themes that reinforce the twin missions of the Department of Housing and Urban Development.

The first theme is jobs and economic opportunity. Nothing empowers an individual, develops a community, or builds a stable tax base like a job. The challenges of the global economy combined with the implementation of welfare reform has placed new demands on communities across America, and made HUD's economic development mission more vital than ever. This budget reinvents several HUD programs to meet that challenge in an innovative way, proposing vouchers to help people move from welfare to work, a Community Empowerment Fund to get businesses the start-up capital they need to create jobs, and funding for second round of Empowerment Zones to bring opportunity back into the inner city. It also builds on successful core programs, doubling funding to convert old brownfields into thriving businesses, and streamlining the Community Development Block Grant program to provide communities with more resources and more flexibility to turn their plans into reality.

The second theme is housing and homeownership. Housing is the foundation on which everything else is built. For the past two years, tight budgets have reduced America's net increase of rental assistance to virtually zero. The 1999 HUD budget gets America back into the housing business, not by creating new programs but reinventing old ones. It proposes new vouchers to help people find affordable housing, a new "bank" to allow communities to leverage up to five times their HOME allocations to build housing, and the largest level of funding ever to end the tragedy of homelessness. It also makes clear that all of HUD's separate housing roads should ultimately lead to one place: homeownership. Our goal is to help more people become homeowners, and this budget does so in innovative ways: by raising FHA loan limits to help more middle class families buy homes, and by increasing HUD's campaign to weed out housing discrimination once and for all.

The goal of HUD's fiscal year 1999 budget is to be a better partner for communities to empower them to address their full array of needs. To accomplish this goal, HUD has provided both more resources and better tools for communities to tap.

Let me outline some of these initiatives in more detail.

JOBS AND ECONOMIC OPPORTUNITY

The biggest challenge for distressed communities in central cities, suburbs and rural areas is creating jobs. In an increasingly globalized economy, new jobs are more likely to be created in suburban areas, or in developing nations than in the core of America's central cities. While the nation has experienced unprecedented economic prosperity, distressed communities, particularly central cities still face critical challenges.

Poverty is disproportionately concentrated.—Between 1970 and 1990, the proportion of city residents living in neighborhoods with poverty rates of more than 40 percent doubled. By 1990, more than 10 percent of all city residents lived in these high poverty neighborhoods.

Unemployment rates remain high.—While nationwide unemployment rates have plummeted to 24-year lows, city unemployment rates remain substantially higher than the nation as a whole and suburbs. In all metro areas, central city unemployment rates are 5.1 percent, a full one and a half points higher than their suburbs.

Most job creation is occurring in the suburbs.—While the economy has generated more than 14 million new jobs since 1993, the vast majority of those jobs are being created in suburban areas. In the early 1990's, only 13 percent of new entry level jobs were created in central cities.

Job creation is the foundation for economically and socially healthy communities. Job creation will also be critical to make welfare reform a success, particularly in light of concentration of welfare recipients. Nationwide, recipients moving from welfare to work will need an estimated one million jobs in the next several years. Our fiscal year 1999 budget increases funding for economic development and job creation by more than 15 percent over 1998 enacted levels, based on a number of programmatic improvements.

Community Empowerment Fund and Economic Development Initiative

The centerpiece of HUD's job creation efforts is the Community Empowerment Fund, an enhancement of HUD's existing Economic Development Initiative and Section 108 Loan Guarantee program. The Community Empowerment Fund (CEF) will provide resources for spurring private investment in our nation's cities and increasing opportunities for former welfare recipients to successfully move from welfare to work. The 1999 request of $400 million will leverage an estimated $2 billion in private sector loans over time and will support an estimated 280,000 jobs when projects are completed.

The Community Empowerment Fund is a creative financing tool that combines local control, private sector capital and federal loan guarantees to rebuild distressed urban and rural communities. The Fund will finance a wide range of job-creation projects, from loans for new small businesses to neighborhood commercial revitalization efforts.

HUD's fiscal year 1999 proposal will also incorporate substantial innovation by providing strong incentives for standardization of economic development lending. Unlike the housing finance system, where Fannie Mae and Freddie Mac have established standard underwriting criteria, economic development lending has no cookie-cutter deals. Without such standardization and the evaluation of loan performance using standard criteria, there can be no effective secondary market for economic development loans.

EDI funds have been used to support a wide variety of innovative community lending initiatives. The Community Empowerment Fund will support more such innovative projects. Some successful EDI projects include:

—Revolving Loan funds, such as Ohio's Mahoning Valley Economic Development Fund that is aimed at helping communities retool their economies in the wake of the steel industry's decline, which had once been the backbone of the local economy.

—Inner-city shopping centers, such as the Good Hope Marketplace in Washington DC's Anacostia neighborhood, which includes a full-service 55,000 square foot Safeway Food and Drug Store.

—Welfare-to-Work efforts, such as Cessna Aircraft's Learning and Work Complex in Wichita, Kansas, which provides daycare and job training for former welfare recipients employed in the company's adjacent industrial facility.

President Clinton said it best when he unveiled the Community Empowerment Fund proposal earlier this year. The Community Empowerment Fund, he said, "will provide capital to businesses who recognize the potential and the possibilities of the inner cities. This is the right way to help our cities. It is not a handout. It will bring new credit, new jobs, and new hope to the people."

Welfare-to-Work Vouchers

HUD's budget provides a flexible new tool to help states and communities meet the challenge of moving welfare recipients into jobs. Specifically, HUD proposes to provide 50,000 new welfare-to-work vouchers at a cost of $283 million, targeted to welfare recipients who need housing assistance to get or keep a job. Families could use these new vouchers to move closer to new jobs or to reduce long and cumbersome commuting patterns.

In many parts of the country, jobs are being created far from where many welfare recipients live. Three quarters of welfare recipients live in cities or rural areas and the vast proportion of jobs are being created in suburban areas. Few welfare recipients own cars. Even when jobs are available, long commutes by public transit pose a substantial barrier for welfare recipients finding and keeping jobs. For example, 45 percent of entry level jobs in the Cleveland metropolitan area are accessible from Empowerment Zone neighborhoods within an 80-minute one-way commute via public transportation; 55 percent are not public transit accessible at all.

HUD has developed an innovative transportation solution to this problem: the Bridges to Work demonstration is connecting inner-city residents to suburban jobs in 5 cities. Based in part on this demonstration, the Department of Transportation is proposing a $600 million Access to Jobs initiative to improve transportation connections for welfare recipients.

But some welfare families will not be able to maintain long and difficult commutes to keep their jobs. Our proposal goes one step further: helping families move closer to available jobs. HUD's request for these 50,000 additional portable housing vouchers will help families making the transition from welfare to work. The additional vouchers will be available on a competitive basis to local public housing agencies (PHA's) who, in collaboration with their local welfare and employment agencies, will develop plans to use the new vouchers to support families transitioning from welfare to work.

We imagine these vouchers could be critically important in many circumstances: in suburban counties like Anne Arundel County in Maryland, where jobs are concentrated in a few areas but welfare recipients are dispersed; and in central cities, where welfare recipients living in isolated poverty neighborhoods must take several buses to get to downtown jobs. Some central city residents will move from central cities to suburbs, where most of the new entry level jobs are located. Finally, some rural recipients could use portable housing assistance to move from rural areas where there are simply no jobs to metropolitan areas with better employment prospects.

The vouchers will be focused exclusively on families where housing assistance is deemed essential to help families transition from welfare to work—that is, where housing assistance is essential to getting or keeping employment. Local agencies will have great flexibility to design and operate the welfare-to-work voucher program within broad national guidelines.

Empowerment Zones

In 1995, the Administration selected nine Empowerment Zones, entitling them to receive federal tax incentives and direct funding for physical improvements and social services. These communities fashioned comprehensive revitalization strategies, with all local stakeholders—residents, non-profits, businesses and government—at the table. The early results have been extremely encouraging: they have leveraged billions of dollars in private investment and new jobs and business activity are expanding in many of these communities.

To build on this early success, the 1997 Taxpayer Relief Act created 20 new Empowerment Zones—15 new urban zones and 5 new rural zones. Second Round Zones were provided with tax incentives to attract new economic activity, but need the direct spending equivalent to the assistance the successful first round zones received. The President's Budget for 1999 requests $1.5 billion funded over 10 years in equal $150 million amounts for the 15 new urban Zones. The legislation to authorize the EZ program is being proposed under of Title XX of the Social Security Act.

Following the model set forth in the first round, funding will be made available for a broad range of job stimulation activities, with an effort to link revitalization plans to welfare reform strategies. Examples of eligible activities include: community policing, health care, neighborhood development, brownfields cleanup and redevelopment, economic development projects, work force development, and housing assistance.

Community Development Block Grants

A total of $4.725 billion is requested for the major Community Development Block Grant Program, an increase of more than $50 million over the 1998 enacted level, and an all time high. Further, HUD has substantially reduced the requested set-asides for other programs within CDBG, from $479 million in fiscal year 1998 to $292 million in fiscal year 1999. As a result, funding available for formula allocation to state and local governments effectively increases by $238 million in fiscal year 1999, a five percent increase.

In addition, the CDBG funds will support $1.3 billion in new loan guarantees under the Section 108 program of the Housing and Community Development Act. This is the same level enacted in 1998.

Regional Connections Initiative

In light of the long-term shift of jobs and people to the suburbs, regions have become the building blocks of the larger national economy. The challenge for local communities is to take full advantage of the opportunities presented by the new regional economies.

At the same time, communities need to find ways to respond to some of the acknowledged negative impacts of the metropolitan economy: a growing job skills and training gap; the concentration of poverty in central cities; the spatial mismatch of housing and jobs; a growing disparity in local government fiscal capacity; schools at risk; rising infrastructure costs; higher vehicle miles traveled; increasing congestion; air and water pollution; and loss of prime farmland and open space. A new challenge facing communities is to make welfare reform work in the context of new regional economies.

This initiative is a $100 million set-aside within the CDBG program. It will make funds available by competition to states and localities to cooperate regionally to develop strategic plans that address key regional issues facing the nation's metropolitan areas and rural communities. The initiative will help communities adjust to the significant demographic and economic shifts that are taking place in metropolitan regions. It will encourage regional strategies that emphasize coordinated metropolitan economic growth and regional solutions to a range of environmental and social equity issues.

HUD will establish an Advisory Board of city and county officials, distinguished urban planners, economists, and regional experts to develop the competition, and expects to contract with a qualified national organization to assist in managing the funding awards process. This will limit the administrative burden on HUD.

Brownfields

The 1999 Budget proposes to double, from $25 million in 1998 to $50 million in 1999, the level of funding for the Brownfields Redevelopment program. This will sig-

nificantly accelerate the Administration's commitment to provide $100 million toward brownfields redevelopment.

Brownfields are low-to-moderately contaminated sites, often on former industrial sites in American cities. An estimated 450,000 sites exist, and the vast majority of those are located in urban areas. None of the sites has levels of contamination which would score high enough to be placed on the National Priorities List under the Superfund program. Without any cleanup mandate, these sites could go for years without being restored to alternative and modern uses. Their clean-up not only improves the environmental condition of the area, it provides a unique opportunity to revitalize downtown areas that have been essentially abandoned.

Each Brownfields dollar is highly leveraged. The $50 million being proposed for 1999 will leverage $200 million in loans and loan guarantees and the clean-up effort will generate 28,000 construction and related jobs precisely where employment opportunities are most needed.

The Administration has established a Brownfields National Partnership among 15 agencies to turn contaminated Brownfields into greenfields of economic opportunity.

HOMEOWNERSHIP AND HOUSING

Housing needs in America remain substantial. More than five million very low income families pay more than half their limited incomes for rent or live in substandard housing. Staggering numbers of families and individuals have no homes at all: the best estimates suggest there are 600,000 homeless on any given night. While the nation has achieved record homeownership rates, homeownership for minorities, for female-headed households, and for residents of central cities remain 20 to 30 points below the national rate.

The President's fiscal year 1999 budget reverses this course. The President's 1999 budget gets HUD back into the housing business—not by creating new programs, but by reinventing existing ones.

To expand homeownership opportunities, HUD proposes higher FHA loan limits, additional Homeowership Zones, new Empowerment Homeownership Vouchers and increased funding for housing counseling.

To expand affordable rental housing opportunities, HUD proposes 100,000 new vouchers to help welfare recipients, homeless individuals and families and other targeted groups find affordable housing; a new HOME Bank, which combines increased funding for the HOME program with a new loan guarantee feature to help communities finance large-scale multifamily and homeownership developments. HUD is also maintaining our investment in HOPE VI and other public housing programs and renewing all expiring Section 8 contracts. HUD continues to implement the successful Continuum of Care strategy and the 1999 budget includes a record level of funding to help end the tragedy of homelessness. In addition, the Clinton Administration proposes to expand the Low Income Housing Tax Credit (LIHTC) by raising the per capita cap from $1.25 to $1.75 to significantly compensate for the loss of the Credit's value since 1986 and to finance a $30 million pilot program through the Neighborhood Reinvestment Corporation. The LIHTC expansion will assist an additional 180,000 Americans a year.

Continuing the Growth of Homeownership

Nothing manifests the American dream more than owning a home. Nothing helps create stability and safety for families and communities like homeownership. This administration has made a unique commitment to homeownership: in June 1995, the President pledged to reach the goal of 67.5 percent by the end of the year 2000. We have already reached the nation's all-time highest rate of homeownership—66 percent.

But the job is not done. Homeownership in central cities and among women, minorities, and lower income Americans hovers at or below 50 percent. In many parts of the country and in many neighborhoods even middle class families have a hard time affording homeownership or making the continued investments needed to project their most valuable asset.

The budget includes a number of initiatives to allow more Americans to make the dream of homeownership a reality.

FHA Loan Limits Increase

President Clinton's budget calls helping hundreds of thousands of hard-working middle-class American families qualify as homeowners by raising home mortgage insurance limits used by the Federal Housing Administration (FHA).

Despite record national homeownership rates, many Americans—including young, first-time homebuyers, center-city residents, and racial and ethnic minorities—are shut out of homeownership because they have difficulty accessing mortgage credit.

Raising the loan limits will enable FHA to meet the mortgage credit needs of hundreds of thousands of American households not presently served by the private mortgage industry.

The Federal Housing Administration's single family mortgage program has been one of the most successful public-private ventures ever established by the Congress. FHA provides mortgage insurance that enables homebuyers to secure mortgages from private lenders. Over the past 60 years, FHA has made homeownership available to nearly 25 million families throughout the country.

Today, FHA has over 250 separate loan limits ranging from $86,317 in more than 2,000 low cost counties to $170,362 in 130 higher cost counties. About 930 moderate cost counties have loan limits set at 95 percent of local median home sales price which fall between $86,317 and $170,362.

HUD proposes to create a single, nationwide limit of $227,150, which would simplify the current system and bring FHA back in line with the limit used by Fannie Mae and Freddie Mac, the two largest providers of mortgage credit in the market place. Increasing the loan limits will expand FHA's ability to reach underserved markets. Mortgage lending information gathered by the Federal Reserve Board, as part of the Home Mortgage Disclosure Act (HMDA) requirements, show that in 1996, some 350,000 households—approximately one in eight applicants—were denied credit in the conforming conventional market. These denials limit homebuying opportunities for both minority and white households seeking to live in urban and suburban communities.

Mortgage denial rates are particularly high for African-Americans and Hispanic families who are nearly twice as likely to be denied home loans as white applicants. In the aggregate though, white families accounted for nearly two-thirds of the 350,000 households denied credit. Raising the loan limits will enable FHA to meet the mortgage credit needs of these American households who are not well-served by the private mortgage industry.

The higher loan limits will also increase the capacity of families to purchase and rehabilitate older homes, an important component of neighborhood revitalization efforts. Overall, the average loan insured under this initiative would be $145,000.

FHA-insured loans benefit homebuyers by: allowing down payments under 5 percent, allowing homebuyers to borrow closing costs, allowing more homebuyers to qualify for mortgages, and allowing homebuyers to use gifts from family members and others to make their downpayments.

In addition to enhancing homeownership opportunities, raising FHA loan limits is good for the federal budget. The insurance premiums and fees associated with new mortgage business will provide FHA with an increase in revenues of more than $225 million per year.

HOME Bank: Leveraging the Home Program

The budget proposes a substantial enhancement to the HOME Program, which provides flexible grants to states and local governments. HOME is the model of effective devolution. Our initiative would add a new loan guarantee feature, enabling states and localities to leverage private investment with current HOME grants for large-scale rental housing and homeownership developments. This enhancement provides an effective new tool to enhance housing production.

The HOME program request for 1999 is $1,883 million, which includes $1.55 billion for the standard HOME program (with $25 million for Housing Counseling assistance) and $333 million for Elderly and Disabled housing. Funding HOME at $1.55 billion (a $50 million increase from 1998) will provide 78,520 units of affordable housing for owners and renters through construction, rehabilitation and acquisition activities and 11,200 families would receive tenant-based rental assistance.

HUD proposes $333 million for Housing for the Elderly and Disabled, and would shift administration from HUD to state and local governments through the HOME program. While maintaining the integrity of the Section 202 and Section 811 programs, the shift of the program into HOME will allow the Department to further consolidate its program structure, and provide substantial opportunities for state and local participating jurisdictions to leverage additional resources for elderly and disabled housing. HUD intends to submit a legislative proposal to accomplish this consolidation.

In addition, HUD's funding for the elderly includes an additional 8,800 new incremental vouchers. These vouchers replace direct grant funding and allow HUD to serve a greater number of elderly households with more limited resources. The overall funding proposed to support the elderly and disabled in the fiscal year 1999 budget will serve more households than were served by the fiscal year 1998 funding.

HOME Loan Guarantee Program. Building on HUD's recent success with the Section 108 loan guarantee feature of the CDBG program, the fiscal year 1999 budget

proposes to provide a similar enhancement to the HOME program: a new loan guarantee.

This legislative initiative will permit HOME participating jurisdictions to finance large-scale development activities by leveraging their future HOME allocations. The budget supports $100 million of new loan guarantees at an estimated credit subsidy cost of $11 million in fiscal year 1999. Communities may borrow up to five times their most recent HOME allocations.

The ability to borrow a large sum of money will encourage PJ's to undertake broad-based neighborhood revitalization strategies and to take advantage of economies of scale, producing or rehabilitating a large number of rental or ownership units in a single undertaking within a relatively short time frame.

Homeownership Zones

The Budget proposes $25 million in 1999 to enable cities to undertake large-scale single family developments in inner city neighborhoods.

Creating new concentrated homeownership developments as part of a whole neighborhood strategy is central to redeeming blighted and troubled neighborhoods. Homeownership would serve as a foundation for additional investment in residential, commercial, and economic development of the Homeownership Zone. HUD has funded six Homeownership Zones with 1996 funding and will soon be announcing a new round of five to seven designated zones in the near future.

With an infusion of low- and middle-income homeowners, these zones are transforming their city neighborhoods. More than 2,000 units of housing are being constructed or rehabilitated in Louisville, Cleveland, Sacramento, Buffalo, Baltimore, and Philadelphia and are having an enormous impact on the economies of these cities. Not only do these zones attract homeowners, they create demand for other neighborhood economic activities like grocery stores and dry cleaners. While a majority of the newly constructed units are reserved for low- and moderate-income families, the zones are also designed to attract middle-income families in order to increase the long term stability of a neighborhood. This program is expected to help solve one of the most difficult problems faced by cities: retaining middle class families.

Housing Counseling

The Housing Counseling program, a set-aside in the HOME program, is designed to provide pre- and post-purchase counseling assistance to clients on housing issues. The request for counseling funds is increased by 25 percent over the 1998 enacted level of $20 million to $25 million in 1999.

Despite the success of the President's National Homeownership Strategy, homeownership education and counseling is still in great demand, providing both an opportunity and a challenge in raising the homeownership rate. Recent ethnographic studies completed in 1997 examined the homebuying experience of minority and immigrant households. These groups are the least likely to become homeowners, the studies concluded, because of the lack of knowledge about the homebuying process, the lack of credit histories to justify mortgage applications and a lack of information about financing options.

Therefore, housing counseling remains an important feature of the President's commitment to increase the country's homeownership rate.

Ending Discrimination in Housing

Under Secretary Cuomo's leadership, HUD has taken a prominent role in the President's One America initiative, doubling its targeted number of housing discrimination enforcement actions and partnering with 67 non-profit housing groups to reduce housing discrimination. HUD has also entered into 113 best practice agreements with key lenders, resulting in more fair lending practices and expanded opportunities for low-income minority families.

At the President's direction, Secretary Cuomo launched efforts to double the number of fair housing enforcement actions to crack down on housing discrimination during the President's second term. These efforts include HUD's new "Make Em Pay" initiative to take civil action against people who commit housing-related hate crimes. During 1997, the compensation for persons alleging discrimination and hate acts has increased dramatically, resulting in a 224 percent jump in compensation to victims—$7.7 million for May-September 1997, compared with $3.5 million for May-September 1996.

The fiscal year 1999 budget proposes a 73 percent increase in funding for fair housing activities to allow HUD to follow through on the Secretary's commitment to protect the right of every American family to live and raise their children in any neighborhood they can afford. The 1999 Budget nearly doubles funding for the Fair Housing Initiatives Program (FHIP)—from $15 million in 1998 to $29 million in

1999. The FHIP program provides funding to help private, non-profit fair housing organizations carry out programs that enhance compliance with fair housing laws.

There are three key components to the increase. First, the budget proposes a $10 million housing discrimination audit, to assess systematically the levels of housing discrimination in 20 communities across the country. The audit findings and data will also be used as evidence to enhance fair housing enforcement efforts. Second, fiscal year 1999 resources will increase funding available to private non-profit fair housing groups around the nation, so they can do more to reduce housing discrimination. These groups use HUD assistance to help pay for investigations and lawsuits. Third, funding will create a national Fair Housing Rights Education Campaign to inform Americans about their legal rights and responsibilities under the Fair Housing Act and to provide them with assistance when confronted by illegal discrimination.

The Fair Housing Assistance Program (FHAP) program enables HUD to certify State or local fair housing enforcement programs as "substantially equivalent" agencies. FHAP reimburses the agencies for handling fair housing complaints filed in their jurisdictions. Funding for FHAP is proposed at $23 million, up from $15 million in fiscal year 1998.

Affordable Housing

Not all Americans can afford the benefits for homeownership. In fact, the need for affordable housing is at an all-time high. In 1995, 5.3 million low-income families had "worst-case" needs—that is, spent more than half their income on rent or lived in severely substandard housing. This 5.3 million does not even include the Americans who are literally homeless, since these families and individuals cannot be counted by the biannual survey of housing conditions conducted by HUD and the Census Bureau. The best estimates suggest that 600,000 individuals and families are homeless on any given night.

This budget puts housing at the top of HUD's agenda, where it rightfully belongs. Total funding for housing initiatives increases 10 percent over 1998 levels. The Administration proposes a comprehensive agenda of new housing initiatives.

Expanding and Preserving Section 8 Assistance

A centerpiece of HUD's housing agenda is a proposal to provide 100,000 new incremental rental vouchers. Unlike previous years, however, HUD is proposing to martial new housing resources for specific strategic purposes: 50,000 for helping welfare recipients make the transition to work; 34,000 for homeless persons and families who are ready and able to make a transition into permanent housing in the private rental market; and 16,000 for the elderly, family unification and other targeted purposes.

To further increase the supply of tenant-based rental assistance, HUD proposes to eliminate a provision that requires PHA's to delay for 3 months the re-issuance of existing tenant-based units at turnover. This provision substantially reduces the number of families who can be assisted tenant-based certificates and vouchers at any point in time.

In addition, HUD proposes to renew all expiring Section 8 contracts. Last year, HUD's budget described the crisis posed by expiring Section 8 contracts. With HUD's vigorous support, Congress included sufficient resources in the Balanced Budget Act to renew all expiring contracts through 2002. In addition, Congress enacted landmark legislation to restructure the contracts of private owners of Section 8-assisted housing. This legislation will stop paying landlords excessive rents, while restructuring their mortgages.

The fiscal year 1999 budget requests $7.2 billion to renew Section 8 contracts covering 2 million units expiring in 1999. This continues HUD's clear policy to continue to renew all contracts that expire in the future. To reduce our request for new budget authority for renewing Section 8 contracts in 1999, HUD will first use $3.7 billion in Section 8 reserves being held in the Section 8 Preservation Reserve Account.

Moreover, HUD has improved the Section 8 funding process by identifying and taking back excess project reserves held by public housing authorities who administer the tenant-based Section 8 program and utilizing more accurate methods for estimating renewal costs. Some PHA's simply held unused funds, while others used excess funds to provide rental assistance to additional households. To monitor the use of the funds, HUD is now requiring PHA's to report regularly on their funding balances. As a result of the new reporting requirements, HUD's future funding requests will reflect accurately both the availability of and need for additional Section 8 budget authority.

Homeless Assistance Grants

Reducing homelessness is one of my top priorities. While I was Assistant Secretary for Community Planning and Development, HUD initiated a new strategy for reducing homelessness, requiring communities to establish "Continuum of Care" strategies. A Continuum of Care strategy is a coordinated community approach that ensures that homeless families and individuals can make the transition from homelessness to permanent housing.

HUD's innovative Continuum of Care approach serves the specific needs of all homeless persons, including those with mental illness, those in need of substance abuse treatment, and those in need of job skills. Continuum of Care strategies focus on filling existing gaps in housing or other services within a community that are necessary to move individuals and families from temporary shelters to permanent housing. The Plan must, therefore, be inclusive of and utilize the services of public, private and non-profit participants within a community.

The 1999 Budget requests a total of $1.15 billion, an increase of almost 40 percent over the 1998 enacted level of $823 million. This includes $958 million for homeless assistance grants and $192 million for 34,000 vouchers. This is the highest level ever requested for this program.

Moreover, any increase in funding, if enacted, combined with recent policy changes will have a tremendous impact on the number of needy individuals receiving assistance to help them achieve independent lives. A recent Columbia University study concluded that the number of individuals and families that have been assisted in moving to permanent housing increased by 14 times between 1992 and 1995 while federal funding only doubled.

When families and individuals are ready to graduate from emergency and transitional homeless facilities to permanent housing, affordable permanent housing is too often not available. Therefore, HUD proposes the inclusion of $192 million for 34,000 additional incremental Section 8 vouchers intended for homeless individuals and families who would otherwise have the most difficult time securing permanent housing, as determined through the approved continuum of care strategy. The vouchers will help ensure that when families and individuals are ready to leave the Continuum of Care and enter private housing, affordability will not be a barrier that inhibits this progress.

By assisting homeless individuals and families, including those with disabilities, in moving to permanent housing, shelter and services are freed up for other homeless persons to achieve self-sufficiency. Also, while transitional assistance provides good progress—an average stay is 9 months—some rental assistance with services is key to the restoration of dignity and independence that is critical for children and parents.

Maintaining HUD's Investments in Public Housing

Over the last 50 years, the Federal government has invested billions of dollars into the construction and operation of the 1.4 million units of public housing. In most communities, it is well-managed and provides decent quality affordable housing for poor families who cannot afford private market housing. Public housing units represent one-third of all housing that is affordable to families with minimum-wage incomes.

But in too many communities, public housing is found at the heart of urban communities plagued by deterioration, crime and drugs. Critical mistakes were made in the design, construction and maintenance of many of these public housing developments.

The Clinton Administration has worked for five years to implement a physical and social transformation of public housing. At its heart, this transformation requires the demolition of the worst public housing developments. To replace these developments, HUD has created a new mold for public housing: mixed-income, mixed-finance projects that blend into their neighborhoods. HUD has sought and will continue to seek enactment of comprehensive legislation that will provide responsible deregulation of the public housing industry and new tenant rent rules that encourage and assist tenants to move from welfare to work. Finally, HUD is developing new real estate assessment and enforcement capacities to fix the most troubled housing agencies and create incentives for good performance.

HUD's fiscal year 1999 budget supports the continued transformation of public housing while maintaining HUD's financial investment.

HOPE VI.—The Department is requesting $550 million for the Revitalization of Severely Depressed Public Housing Program, commonly referred to as HOPE VI. The Department has set a goal of approving the demolition of 100,000 blighted or obsolete units by the year 2000, and providing essential replacement housing in their place.

In 1999, the Department plans to approve an additional 15,000 units for demolition. and will fund 14,000 replacement units, of which 4,000 are "hard" units and 10,000 are tenant based rental assistance. By the year 2000, 99,670 replacement units will be funded. The hard replacement units will be incorporated into economically diverse communities to foster more stable communities. HUD is committed to changing the patterns of social and economic isolation, high concentrations of very low-income families and segregation.

Public Housing Capital Fund.—The 1999 Budget requests a total of $2.55 billion for 1999, an increase of $50 million over the 1998 enacted levels. This increase will help reduce substantial backlogs of PHA capital improvement needs. Capital funds may be used to upgrade viable housing units, demolish obsolete worst units, provide continued assistance to displaced families or build replacement units.

Public Housing Operating Fund.—HUD requests $2.818 billion for the Public Housing Operating Fund in fiscal year 1999. When supplemented with $113 million in anticipated carryover funding, available Operating Fund resources will be $2.931 billion. This level represents a $31.6 million increase over fiscal year 1998 levels and will enable the Department to meet its commitment to fund 100 percent of the amount established by the Performance Funding System.

Drug Elimination Grants.—HUD proposes that $310 million be appropriated for Drug Elimination Grants again in 1999 for anti-crime, anti-drug and clearinghouse information services. Eligible activities include the employment of security personnel, reimbursement of local law enforcement agencies for protective services, enhanced security through physical improvements and drug prevention, intervention and treatment programs.

Funding also includes $20 million for Operation Safe Home. Operation Safe Home is an effort to combat violent crime in public and assisted housing and is administered by the Department's Office of Inspector General in close coordination with local and federal law enforcement authorities. The program establishes coalitions to implement a coordinated fight against gang and other criminal activity.

Native American Housing Block Grant.—HUD requests $600 million for the Native American Housing Block Grant. This funding level is critical to maintain and expand affordable housing opportunities for Native Americans. Funds can be used for a wide variety of activities that will increase the availability of affordable housing stocks. The program operates as a block grant to eligible Indian tribes or through their Tribally Designated Housing Entities.

Federal aid plays a critical role in providing affordable housing for Native American populations. Presently, almost 45 percent of all low-income households in tribal areas are served by HUD assisted housing units. Of the estimated 69,000 units assisted, 32 percent are in the rental program. For the Native American Indian and Alaskan Native areas, the 1990 census reported an unemployment rate of 20 percent and a poverty rate of 36 percent.

Housing Opportunities for Persons with AIDS (HOPWA)

The 1999 HUD Budget requests an increase of 10 percent or $21 million over the 1998 level of $204 million for Housing for Persons with Aids (HOPWA). If enacted, the funds would support 41,500 units of housing assistance and would provide related services to approximately 74,875 individuals.

The number of eligible jurisdictions has grown each year and that trend is expected to continue. The Centers for Disease Control reported 69,101 new cases of AIDS in 1996 alone. An increase in funding is, therefore, essential to keep pace with the need and the increase in jurisdictions eligible for funding. Based on the current formula allocation of HOPWA funds, the only alternative to increasing the funding level would be to require that all jurisdictions take a significant reduction in assistance.

Enhancing Tenant Mobility in the Section 8 Program

HUD is also requesting $20 million in new funding for Regional Opportunity Counseling in the Housing Certificate Fund. This program is targeted to reducing concentrations of poverty by helping at least 13,000 families in 10–20 metropolitan areas choose housing in low poverty areas. Funds will be awarded by competition to collaboratives of housing authorities and non-profit organizations.

These collaboratives will develop specific strategies to help move individuals to areas with low poverty rates. Examples of eligible activities include; landlord outreach, motivational counseling, training in household budgets, direct search assistance, payments to landlords, assistance with security and utilities deposits.

In addition, the Secretary is requesting a small set-aside within the Housing Certificate Fund to reward public housing agencies that successfully reduce the poverty concentration of families using portable tenant-based assistance. Research suggests

that families moving from high poverty to lower poverty neighborhoods can access better schools and jobs, and ultimately improve life outcomes for children. The 1999 budget would set aside $8.75 million in Section 8 funding to increase the administrative fees paid to PHA's if agreed upon targets are achieved. The program is modeled after a successful pilot conducted in Chicago, where a private contractor is managing the tenant-based Section 8 programs.

Property Disposition Reform

The proposed reforms to the single family property disposition program would provide HUD with the flexibility to choose the most cost-effective way of paying insurance claims and disposing of acquired (defaulted) notes on insured homes. Current law requires HUD to pay insurance benefits for defaulted single family mortgagees and details the manner of calculating the amount of insurance benefits that must be paid.

If enacted, HUD would be able to take assignment of the mortgage notes (instead of taking properties into inventory) and then selling or transferring the property to a third party for servicing, loss mitigation, foreclosure and potentially disposition. It is expected that savings of more that $525 million (on a present value basis) will result from the higher return on sales and reduced interest payments to lenders because properties will be disposed of much sooner than can be accomplished under current law.

CONCLUSION

In the end, this budget is the best in a decade not just because HUD has closed its competence gap, but because America still has an opportunity gap. Our nation has created more than 14 million new jobs, but only 13 percent are in cities. We have more homeowners than ever, but over five million Americans either live in substandard housing or pay 50 percent or more of their income in rent. We have more millionaires than any time in our history, but an estimated 600,000 Americans still sleep on our streets every night. That's why HUD's mission is more vital than ever. We closed the competence gap so we could close the opportunity gap. That is both our challenge and our continuing commitment today. This budget says we can do it—but only if we work together.

Senator BOND. Thank you very much, Mr. Secretary. Let me make just a few comments on the things that you have raised.

ISSUANCE BY THE PHA'S

I would like to see you ask for a legal opinion on the issuance by the PHA's of those 15,000 vouchers that you say are not illegal. We have some questions about it. I think that is something we need to pursue.

Also I question your comments about the declining number of housing units. There may not be an expansion of HUD programs, but the reason we have the HOME program, the CDBG program, HOPE VI is to encourage the development and the provision of affordable housing through these local government, private, and not-for-profit partnerships. I would like to see the statistics on the number of housing units developed there.

ECONOMIC DEVELOPMENT

We also had a very good discussion about the importance of economic development in the central city areas. Let me point out that with total bipartisan support of another committee, the Small Business Committee, and the unanimous support on the floor of the Senate, we have passed and enacted into law something called HUB zones, for historically underutilized business zones, to make small business set-asides available to small businesses that will set up operations in center cities or in rural poverty areas where there is high unemployment and there are high levels of poverty. This is a new tool that I know many people in St. Louis were interested

in using, and I think this is one thing that HUD should be aware of as you work with other committees.

With respect to those things, let me just ask one question. Then I will try to get as many rounds as we can in with the other members.

I am concerned that while we applaud you for reforming and downsizing the Department, that you may not have adequate staff resources to meet the needs and requirements that you have. You still have 240 programs. HUD needs to trim down and slim down and focus its activities.

What is the current status of your 2020 plan? What steps have you taken to ensure that the delivery system of HUD programs has not suffered through reorganization and downsizing?

HOUSING NEED AND PRODUCTION

Secretary CUOMO. A couple of quick responses, if I might, Mr. Chairman.

First of all, the numbers on the housing need and production. These are from CBO. That is where we got those numbers. On the net negative production, when we say we went out of the housing business in 1996, that we got from CBO.

ECONOMIC DEVELOPMENT

On the economic development, I agree with you 100 percent. There are a number of economic development programs that are working now. HUB Zones is a good work and I know that the chairman was instrumental in that. We have Empowerment Zones which is something that we are working on.

But I do not want to underestimate the extent of the undertaking that this is. You look at some of those numbers in the cities, the numbers of jobs they are going to need just for the people coming off welfare—and this is all in an environment where the economy cannot be going any better. Hopefully this economy just keeps going like this ad infinitum, but if this economy slows, one has to wonder what is going to happen with welfare. So, I do not think we can do enough in this regard, Mr. Chairman.

SECTION 8 ACCOUNT

On the section 8 account, I do not belabor the point. I will get you an Office of General Counsel opinion on the vouchers, but I just want to make sure we are clear on the context. This is us trying to fix a situation that we discovered last year on the reserves.

[The information follows:]

LEGALITY OF "OVERLEASING" BY PHA'S ADMINISTERING THE SECTION 8 CERTIFICATE AND VOUCHER PROGRAMS

In response to the concerns raised by Senator Bond, this opinion analyzes the legality of so-called "overleaping" by PHA's that administer the Section 8 certificate and voucher programs. Overleasing is the practice of assisting more families than the number of units "reserved" for a PHA's certificate or voucher program in HUD program information systems.

Overleasing is not prohibited by any statute or regulation. HUD payments to a PHA may not exceed the amount of funds (budget authority) reserved for the PHA from amounts appropriated by the Congress. The law (successive annual appropriations) does not specify the number of units or families that may be assisted with available appropriated funds.

During the history of the programs since 1976, HUD has changed requirements that determine the number of families that may be assisted by a PHA within available funding, the annual amount budgeted for assistance, and the amount contracted by HUD for renewal of expiring funding commitments under the PHA ACC. However, HUD procedures have always been designed to assure that amounts budgeted and paid to a PHA for support of its certificate or voucher program may never exceed the funds appropriated by the Congress. Current program instructions provide that a PHA may generally only lease the number of units which can be supported within the annual contractual limitation on payments for a PHA's certificate or voucher program from amounts available under the PHA's ACC.[1]

For clarity in this discussion, we start with a brief review of basic program concepts. Each fiscal year, Congressional appropriations release "budget authority" for the certificate and voucher program. The release of budget authority grants authority to incur financial obligations that will result in outlays. When HUD awards new funding to a PHA, HUD records show the amount of budget authority reserved for the PHA from the Congressional appropriation. The HUD record also specifies "contract authority"—the maximum annual payment by HUD against each commitment of budget authority. Finally, the HUD record shows the historical number of "units" reserved by HUD for each increment of funding in the PHA's program. The number of units is set when HUD approves the PHA's application for new funding and does not generally change when HUD provides renewal funding to continue assistance after expiration of the initial funding commitment.

The number of reserved units is initially used to determine the amount of funding contracted for a new funding commitment in the certificate or voucher program. The same historical unit number is also used to determine the amount of funding contracted for renewal of the initial commitment from time to time. In the certificate program (but not the voucher program), the number of units reserved is also used to calculate necessary "amendment" funding during the term of the ACC. HUD provides additional certificate funding so that a PHA can continue to provide assistance for the same number of assisted units during the ACC term (for a particular funding increment).

The form of ACC lists successive increments of funding obligated by HUD to support a PHA's certificate or voucher program.[2] For each such increment, the ACC specifies both the amount of appropriated budget authority—the maximum amount that may be disbursed to the PHA over the ACC term—and the amount of "contract authority"—the annual limit on payments during the contract term. Budget authority is a hard statutory limit on aggregate payments to the PHA. Contract authority is now used as an administrative control to limit the rate at which PHA's draw down available budget authority over the ACC term.[3] In any PHA fiscal year, the amount available to support the PHA's certificate or voucher program is the sum of the contract authority amounts for successive funding increments under the ACC.[4] In addition, if the aggregate payment for a PHA's certificate or voucher program in any fiscal year is less than the available contract authority (Annual Budget Authority), HUD credits the excess to an unfunded reserve account[5] that can be drawn for future program payments.[6]

From the beginning of the certificate program (in fiscal year 1976) until 1994, the form of program ACC stated the number and unit distribution of units reserved for a PHA's certificate program (number of units by number of bedrooms). The ACC also provided that, to the maximum extent feasible, the PHA must enter into HAP contracts in accordance with the authorized unit distribution as stated in the ACC.[7]

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[1] Notice PIH 97–59, issued 11/26/97, § 3.

[2] See description of ACC funding structure in § 982.151.

[3] In the early years of the certificate program, the Congress appropriated "contract authority" as an annual limitation on Section 8 outlays, without specifying the maximum outlay over the contract term. The Congress subsequently shifted to appropriations that specified both contract and budget authority.

For some years, however, Congress has only appropriated by providing Section 8 budget authority, without any statutory limit on the annual disbursement against the appropriated budget authority. However, HUD has administratively retained "contract authority" as an annual contractual and budgetary limit on HUD payments during the ACC term.

[4] The sum of available contract authority amounts is variously referred to as "Annual Budget Authority" (ABA), Maximum ACC amount, or Maxim Annual Contract Commitment.

[5] The account is now called the ACC Reserve Account (previously called project reserve). Because of extensive recaptures from these program reserves in fiscal year 1997 by direction of the Congress, available reserve funds are now very limited.

[6] See HUD–52520 (11/93): § 1 (definition); § 7; § 982.4 (definition); § 982.154.

[7] ACC Part I, HUD 52520 B (5/76) § 1.1(b) and § 1.1(d); ACC Part I, HUD 52520 B (12/84) § 1.2(b); ACC Part I, HUD 52520 B (6/85) § 1.2.D; ACC Part I, HUD 52520 B (8/88) § 1.2.B.

During this period, the PHA's were only permitted to lease certificate program units in accordance with the authorized unit number and distribution as specified in the ACC. Consequently, PHA's were contractually required to admit families in accordance with the authorized unit distribution originally approved and reserved for the PHA certificate program. HUD approved PHA budgets to cover assistance payments for units leased in accordance with the approved unit distribution.

In the voucher program, PHA's have never been required to comply with a prescribed unit distribution. Under the statutory design of the voucher program, PHA's have authority to set "payment standards" which determine the amount of the subsidy for individual families, and consequently the number of families that can be assisted from available budget authority.[8]

In May 1994, HUD issued a new form of unified ACC for the Section 8 certificate and voucher programs. This new ACC and subsequent program ACC's do not specify the number or unit size distribution of program units for a PHA's certificate or voucher program.[9] The PHA is no longer required to lease units in accordance with an authorized unit distribution. This change in the ACC prepared the way for regulatory changes that essentially eliminate the ability of the PHA to control the distribution of units by family size, and consequently the number of units leased with available funds. In July 1994, HUD issued a new rule (effective 10/18/94), that prohibits PHA's from selecting families according to the unit size for which the family qualifies under the PHA occupancy standards (called "family unit size").[10] This regulatory change was designed to give applicant families more equitable access to available assistance resources. Before this change, PHA waiting lists were maintained by unit size, and large families had to wait for program openings in the appropriate unit size category. Under the current system, however, PHA's select families from a unitary waiting list regardless of the unit size needed by each family.

The changes in the ACC and regulation are described in PIH Notice 95–39 (6/15/95). The notice remarks that following these changes: "* * * the number of certificates and vouchers that can be issued by a [PHA] will be determined by the amount of funding that is available." "Approval from HUD is no longer necessary for [PHA's] to deviate from the number of certificate units and bedroom sizes reserved by HUD and formerly designated in the certificate ACC."

Following the 1994 changes in the rule and ACC through 1996, a PHA was permitted to budget and provide assistance for the number of certificate or voucher units that can be assisted from available appropriated funds (budget authority) contracted under the ACC. For this purpose, the amount available is the total of contract authority (Annual Budget Authority) plus available amounts in the certificate or voucher program reserve (undisbursed budget authority remaining in the ACC Reserve Account). Under this system, the PHA was not restricted to the number of units originally reserved for the PHA program, or the unit size distribution as originally reserved.

In 1996 and 1997 HUD made changes in leasing policy so that PHA's can continue to assist program families within amounts appropriated by the Congress. In August 1996 and November 1997, HUD issued Notices that prohibit PHA's from using program reserves (in addition to contract authority) to support leasing of additional assisted units.[11] Under these Notices, a PHA may only lease up to the number of units that can be supported by available contract authority.[12] However, the PHA may continue to lease more than the units originally reserved ("overlease") so long as the overleasing can be supported by available contract authority under the ACC. (These notices also include transition provisions to allow continued assistance for currently assisted families.)

The preceding broadly describes HUD procedures for determining the number of units budgeted and leased over the history of the certificate and voucher programs. We find nothing in these procedures as described that violates any statutory or regulatory requirement. At all times, HUD procedures have been designed to assure that federal payments are within the amounts provided by the Congress. While the original pre–1994 certificate ACC required the PHA to lease units within the num-

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These ACC forms provide that the PHA may not substantially deviate from the prescribed unit distribution without prior HUD approval.

[8] 42 U.S.C. 1437f(o).

[9] Consolidated ACC (for certificate and voucher programs), HUD 52520 (11/93). Notice PIH 94–29 (5/26/94) provides instructions for use of the new combined ACC for the certificate and voucher programs.

[10] § 982.204(d) (as amended at 59 Federal Register 36662, 36685 (7/18/94). See PIH Notice 94–50 (8/1/94), § 3.c.

[11] PIH Notice 96–68 (8/23/96) and PIH Notice 97–59 (11/26/97).

[12] Plus ACC reserve funds used to support extension of original funding commitments.

ber of units originally reserved, this was merely an administrative and contractual requirement, not a statutory obligation.

Senator BOND. And I congratulate you on it. I know that this may not have happened on your watch and HUD did find it out, but it is a concern when we are being asked for significantly new numbers of vouchers and then find out that, as a practical matter, the vouchers have already been awarded. Somebody just did not bother to go through the normal process. That is where our concern is.

Secretary CUOMO. I understand, except this was the normal process for the Department. The Department allowed leasing against the reserves. We changed that last year and said you can no longer lease against the reserves. That was the change. But I will get the chairman the clarification on that.

2020 PLAN

And then on the 2020 plan, Mr. Chairman, this is a situation where you get pulled from both ends. There is a tremendous desire on behalf of this committee and our other committees to get the Department down in size. We are doing that. We have a glide path to 7,500. When you start to come down in size, there is a criticism from the other side that said, maybe you are getting too small. At one point we are going to have to justify both demands.

What we say is this in our 2020 plan. We have at the size that HUD is today, 9,000 people, the best HUD that has been functioning and operating possibly since its creation. We did a national overhaul. We aligned functions in personnel for the first time. We did a merit staffing for the entire Department nationwide. We have new systems, new technology, a new culture with waste, fraud, and abuse. It is evident across the Department. It is the best HUD we can get at this point. We are not finished but we have made real progress.

We then say there is a second plan. If you want to get to 7,500, we are going to need real program consolidations to do that. We cannot get to 7,500 without massive program consolidation. And then we are going to have to have some very tough choices, Mr. Chairman. Do you have a 202 program or do you not? Do you have an 811 program or do you not? Do you put CDBG and HOME together or do you not? We are going to need to make those tough decisions to eliminate programs so you can run it at 7,500. And we are not there yet.

We would love to work with the committee to make that possible. But with the staffing we have today, we can operate the Department well. To get to the 7,500, which was a shared goal—and I know this committee felt very strongly about that—we would need to work together to do significant program consolidation.

Senator BOND. Thank you, Mr. Secretary.

With just a few minutes left, let me turn now to our ranking member, Senator Mikulski.

HOUSING FOR THE DISABLED

Senator MIKULSKI. Thank you, Mr. Chairman.

Secretary Cuomo, I would like to go over my yellow flashing lights, at least try to get through as many as we could. Let me first

start with some questions I have related to the availability and nondiscrimination in housing for the disabled.

You know that I fought moving the implementation of Fair Housing to Justice to keep it at HUD so that we would focus on the housing issue and it would not get lost in a whole lot of other issues at Justice.

Now, in terms of housing for the disabled, I have three principles. No. 1, let us make sure we never have discrimination. No. 2, there has to be access. Remove the architectural barriers and the attitudinal barriers. And No. 3, availability of supply, both publicly subsidized but also private sector.

I am concerned that we are inadvertently sabotaging our goals of availability and access by the lack of clear guidance to the private sector. That would be a part of my question. Clear guidance, how this is being done.

In meeting with home builders in my own State, they gave me a manual that your agency published. It is very beautiful. It is very attractive. It is very expensive. And at the beginning of it, it says it was designed and developed by a nonprofit, Barrier-Free Environment.

It goes on in a disclaimer that says, statements and conclusions contained in this manual represent the nonprofit. They do not represent the views of HUD but HUD paid for it and published it. Some portions may even be in conflict with current or former HUD regulations. However, because this information contained in this manual is advisory, it must be refined and developed before being implemented. No guarantee of the accuracy or completeness of this information without da, da, da, da, is implied.

In other words, then you go on to say even if you follow this, Mr. Builder or Ms. Builder, you are on your own. We have paid for this. We have printed it. We have distributed it, but it does not mean a warm spit to make sure that you, if you comply with what was given to us for recommendations will ensure that you have met our test for eliminating barriers. And this was signed by your predecessor.

Then we have a letter from Cisneros saying how terrific this document is but it does not mean anything because it might even be in conflict or contradiction with our own regs.

Now, I do not want to go over the document. I want to get to the outcome. If you were a home builder or an apartment builder, you are already disadvantaged in the tax code for multiple family dwellings. No. 2, you now want to provide access to the disabled, but you do not have clear and consistent guidelines from HUD.

So, you see I think this then deals with the issues of availability. It then sabotages our issues for access and ultimately the handicapped.

What are you going to do in your Department to ensure that there is clear and consistent guidance to both the public sector ability and the private sector ability so that we can make sure supply is out there?

Secretary CUOMO. Thank you very much, Senator.

First, I agree with the concern you raised and I might even suggest that it is worse than the Senator articulates in some ways because not only is there confusion with what complies with the Fed-

eral Fair Housing laws, but there are multiple local building codes, State regulations, et cetera that have different interpretations State by State. So, it is a very confusing circumstance.

I think the manual that the Senator pointed to was recently removed from circulation.

Senator MIKULSKI. Oh, great. What a surprise. [Laughter.]

Secretary CUOMO. I just wanted you to see how quick the new HUD is, Senator. [Laughter.]

That manual is out of circulation, and you are right. The disclaimer——

Senator MIKULSKI. My yellow light is on. Could you tell me, though, apart from what is in or not in this manual—it might be a fantastic document, but what then can the private sector, as well as mayors, those who then establish building codes look for in saying these are what the rules of the game are going to be?

Secretary CUOMO. We will have out within 30 days a manual, guidelines, a definitive document that says these are the Federal Fair Housing laws and regulations. If you do this, you will be in compliance. Signed, Secretary Andrew Cuomo. And that will be out in 30 days.

Senator MIKULSKI. Mr. Chairman, do I have time for one other question to ask about management?

Senator BOND. I would imagine so. [Laughter.]

Senator MIKULSKI. I know that we do have a vote but——

Senator BOND. I am sure that Senator Lautenberg and Senators Craig and Burns will be most happy. Right?

Senator LAUTENBERG. I am afraid not to.

Senator BOND. Good thinking.

Senator CRAIG. Go for it, Barbara. [Laughter.]

HOPE VI

Senator MIKULSKI. HOPE VI. This is a program that seems to be working in cities large and midsize around the country. You have an able administrator in Ms. Bacon. But prior to her coming, we now have reports, like in my own hometown, that Lafayette Square would be listed as townhouses costing $300,000. When this article was published, it raised eyebrows. It really raised my concern because, as you know, I was one of the founders of HOPE VI.

Could you tell us, is the spending of HOPE VI out of control? Do townhouses really cost $300,000, and would it have not been easier to give the poor $100,000 and let them go anywhere they wanted in the Baltimore metropolitan area?

Secretary CUOMO. Two responses, Senator. First of all, the HOPE VI program is a good program. The concept was right and it is working well. What we need is some clarity and definition as to what we are doing. When they say a $300,000 townhouse, it sounds like you spent $300,000 to build a townhouse, and somebody would say, why would we be doing that with taxpayer money?

The HOPE VI program is actually three programs. It is a housing program. It is also a community development program. It is also a human services program. So, it is a little deceiving when we say one number, one grant for one purpose.

We need clarity and definition. We have a regulation and a rule at the Department that we are now going to process which sepa-

rates the cost into three separate categories and then applies caps to each. We are also then going to go to a secondary level of analysis where we look at the cost within those costs: How much are the tenant groups getting, how much are the attorneys getting, how much are the architects getting, et cetera. You would have a finer level of cost control.

[The information follows:]

OFFICE OF PUBLIC AND INDIAN HOUSING

TOTAL DEVELOPMENT COST (TDC) POLICY

TDC is calculated on the basis of R.S. Means "Economy" and Marshall and Swift "Fair" housing quality, adjusted annually, multiplied by 1.6 for elevator buildings and 1.75 for townhouse construction.

HOPE VI funds are granted under three subgrants:

Housing Subgrant.—Cap HUD Funds, including Public Housing funds, CDBG and HOME at R.S. Means "Average" and Marshall & Swift "Good" housing quality ($85,000 average 1997 cost for 3 bedroom townhouse), adjusted annually for current costs, bedroom distribution and geographic location.

Community Renewal Subgrant.—Cap Public Housing funds at TDC (including Housing Subgrant) for routine site work, demolition and remediation of replacement units, administration, community and economic development facilities, etc. Outside TDC, for 1997 grants only, cap demolition and remediation of on-site non-replacement units and extraordinary site costs, at 110 percent of TDC, using Public Housing Funds, verified by an independent cost estimate.

Human Services Subgrant.—Cap HOPE VI funds at $5,000 per family for occupied units at the time of application plus the number of new families projected to occupy units in the revitalized development for community and supportive services. Cap relocation at $3,000 per occupied unit at time of application.

No cap on non-Public Housing funds used for community renewal purposes.

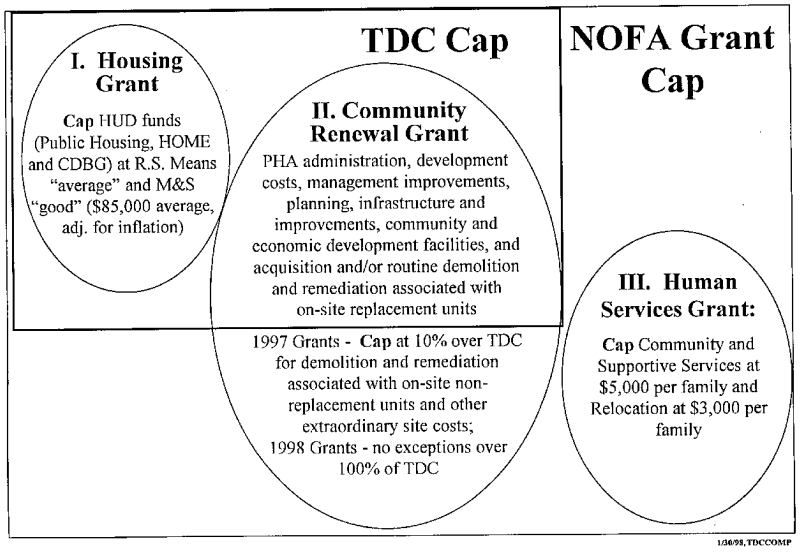
No cap on non-HUD funds controlled by the locality, State or private sector.

Policy applies to 1997 grants forward.

For 1998 grants no exceptions over 100 percent of TDC.

For 1993–1996 grants, approve justifiable exceptions on a case-by-case basis according to the policy which was in place at the time the Revitalization Plan was approved.

Policy applies to other Public Housing Capital Program funds, consistent with HOPE VI.



HARD COST TDC INDEX

RS Means "Economy"; Marshall & Swift "Fair" (1997—$60,000 average)
—2 story, 3 bedroom row house
—Minimum compliance to uniform building codes
—Minimum compliance to FHA and VA requirements
—Energy package for moderate climate
—Exterior brick veneer on front, T111 exterior on rear/plywood material
—20-year asphalt shingle, factory warranty (25 year is market standard)
—1,200 square feet, 3 bedrooms
—1½ baths with enameled steel tub and wall-mounted vanity sink
—Forced air with minimum output (no air conditioning)
—Rubber-backed carpeting 80 percent; asphalt tile 20 percent
—6 linear feet of economy grade kitchen cabinets, plastic laminate countertops
—Slab on grade foundation (no basement)
—Appliances: 30 inch range and range hood, electric water heater, refrigerator, incandescent lighting fixtures (no dishwasher, washer, dryer and garbage disposal)
—Standard builder's general conditions, overhead and profit
—Davis-Bacon labor rates

TDC Hard Cost Indices Average $60,000 [1]

[For 3 bedroom rowhouse]

City	*Housing Hard Cost Index*
ATLANTA	$54,791
BALTIMORE	59,165
BOSTON	73,868
CAMDEN	69,482
CHARLOTTE	50,159
CHICAGO	69,622
CLEVELAND	67,540
COLUMBUS	60,733
DALLAS	56,329
DENVER	61,100
DETROIT	67,061

City	Housing Hard Cost Index
EL PASO	52,073
HOUSTON	56,215
INDIANAPOLIS	61,470
KANSAS CITY	61,470
LOS ANGELES	70,261
LOUISVILLE	57,926
MEMPHIS	55,633
MIAMI	54,159
MILWAUKEE	62,932
NEW HAVEN	66,687
NEW ORLEANS	55,130
NEW YORK	85,682
NEWARK	73,891
OAKLAND	76,291
PHILADELPHIA	70,827
PITTSBURGH	65,716
PUERTO RICO	56,642
SAN ANTONIO	53,161
SAN FRANCISCO	78,467
SEATTLE	66,654
SPRINGFIELD	63,657
ST. LOUIS	64,405
WASHINGTON, DC	59,645
Housing Hard Cost Cap Average	59,847

[1] 1997 Index.

HOUSING HARD COST CAP

RS Means "Average"; Marshall & Swift "Good" (1997—$85,000 average)
—2 story, 3 bedroom row house
—Exterior brick veneer on front
—Vinyl siding exterior on rear with wrapped aluminum fascia and vinyl soffit
—1,200 square feet
—3 bedrooms
—1½ baths with ceramic tile
—HVAC/electric heat pump with air conditioning
—Wall-to-wall carpet with vinyl sheet goods in kitchen, bath and laundry area
—12 linear feet of kitchen cabinetry, plastic laminate countertops
—Basement (slab on grade less approximately $5,000)
—Appliances: 30 inch range, electric water heater, dishwasher, garbage disposal, 30 inch range hood, refrigerator
—Standard builder's general conditions, overhead and profit
—Davis-Bacon labor rates

Housing Hard Cost Cap Average $85,000 [1]

[For 3 bedroom rowhouse]

City	Housing Hard Cost Cap
ATLANTA	$72,818
BALTIMORE	77,962
BOSTON	98,248
CAMDEN	91,635
CHARLOTTE	66,550
CHICAGO	91,256
CLEVELAND	89,752
COLUMBUS	80,316
DALLAS	73,703
DENVER	79,422
DETROIT	88,811
EL PASO	68,778
HOUSTON	73,921
INDIANAPOLIS	81,004
KANSAS CITY	81,004
LOS ANGELES	91,885
LOUISVILLE	76,493

City	Housing Hard Cost Cap
MEMPHIS	76,646
MIAMI	75,269
MILWAUKEE	86,772
NEW HAVEN	90,320
NEW ORLEANS	75,866
NEW YORK	117,275
NEWARK	100,847
OAKLAND	103,083
PHILADELPHIA	96,932
PITTSBURGH	90,412
PUERTO RICO	75,557
SAN ANTONIO	3,295
SAN FRANCISCO	105,907
SEATTLE	90,354
SPRINGFIELD	87,369
ST. LOUIS	88,494
WASHINGTON, DC	82,008
Housing Hard Cost Cap Average	85,293

[1] 1997 Index.

UNITED STATES HOUSING ACT OF 1937, SECTION 6(B)(2)

"The Secretary shall determine the total development cost by multiplying the construction cost guideline for the project (which shall be determined by averaging the current construction costs, as listed by not less than 2 nationally recognized residential construction cost indices, for publicly bid construction of a good and sound quality) by—(A) in the case of elevator type structures, 1.6; and (B) in the case of non-elevator type structures, 1.75.

TDC Housing Cap Explanation

- HUD limits the amount of HUD funds to be used to construct the house.
- HUD does not limit non-HUD money for the house.
- HUD does not limit the amount of CDBG or other non-public housing funds to be used for community renewal purposes.

Example: **TDC = $105,000** (housing index of $60,000 x 1.75)

Option A

House at **$60,000** of HOPE VI + Community Renewal at **$45,000** of HOPE VI = TDC of **$105,000**

	$20,000 of HOME		
	$5,000 of CDBG		
Total	**$85,000**	Total	**$45,000**

Option B

House at **$85,000** of HOPE VI + Community Renewal at **$20,000** of HOPE VI = TDC of **$105,000**

			$10,000 of CDBG
Total	**$85,000**	Total	**$30,000**

Option C

House at **$60,000** of HOPE VI + Community Renewal at **$45,000** of HOPE VI = TDC of **$105,000**

	$20,000 of HOME		**$6,000** of CDBG
	$5,000 of CDBG		**$5,000** of City
	$15,000 of LIHTC		
Total	**$100,000**	Total	**$56,000**

Senator MIKULSKI. But we have a rule and a regulation that is about to go out, Senator, and I am going to give the committee a copy today. I would urge you to consider this for inclusion in legislation. Elinor Bacon, whom you know, has done an extraordinary

job over these months working with local groups, consulting everyone, coming up with what we call total development costs, the separate grants. I would urge you to put it in the legislation, let everybody know what the costs are. We have a very good sense of what they should be and what we want done. We want a good program, but we do not want an extravagant program. The best way to do it is legislatively.

Well, I think we would like to take a look at it. I want my colleagues to have a chance. But what you're saying is that $300,000 is the cost of the community center, the cost of all the legal fees. Thank you.

Secretary CUOMO. Exactly.

Senator MIKULSKI. Mr. Chairman, thank you.

Senator BOND. Thank you very much, Senator Mikulski.

Senator Lautenberg.

Senator LAUTENBERG. Thanks, Mr. Chairman.

One of the things, Mr. Secretary, that I am concerned about in the process of reform or consolidation is that we do not lose the opportunity for some programs to be measured based on their individual or their particular performance results.

PUBLIC HOUSING DRUG ELIMINATION PROGRAM

A program that I authored in 1989, the Public Housing Drug Elimination Program, was first authorized at $8 million in 1989. Now we see a request for $310 million. I believe that the program has stood on its own two feet. It is a meritorious expansion of the spending for the program because it has helped relieve these units of crime, gotten these citizens who live there more involved in the management, and it has worked effectively. I visit these places regularly and I see how excited people are about the opportunity to imprint their own views into the management of the facility. I just want to make sure that we do not consolidate this program into something else where there is a diversion of attention.

How has, in your judgment, Mr. Secretary, the Public Housing Drug Elimination Program done thus far? What do you use as the criteria for measuring it?

Secretary CUOMO. Senator, in general I think the program has done extraordinarily well. Before we even get to a discussion of performance measures, in terms of mission, I think it is vital to the Department. We have proliferated law enforcement programs to rid public housing from drugs. Local police do it. State police do it. Federal police do it. The Department of Justice does it. The FBI does it. HUD does it under Operation Safe Home, and there is no doubt that there is a place for law enforcement. Lock them up. We do that very well as a Nation. We have more people in prisons than any country on the globe. And HUD does that well.

The flip side is, do we have a positive course for people to follow? Is there some job training? Is there a program to get people off the street? The Drug Elimination Grant Program is the program that is a possible solution for that, as well as it can do, quote, hard law enforcement type activities, unquote.

But we think it is a vital program. It is a program that is working very, very well. I can get the Senator specific data on how the

program is doing, but everything I hear, as I go around the country, is all positive.

Senator LAUTENBERG. Whatever you could furnish the committee with, Mr. Chairman, about the progress because I am excited about it not because I authored it, because when I talk to the citizens who live in these places, they are really enthusiastic and they plead, whatever you do, do not take that away. They know what they have at stake is their quality of life by the process of eliminating the drug influence there.

[The information follows:]

THE PUBLIC HOUSING DRUG ELIMINATION PROGRAM

The control and prevention of drug use, drug trafficking, and drug-related crime in public housing communities must begin in the neighborhoods themselves. Although law enforcement officers public housing staff can make important contributions to the anti-drug campaign, experience has shown that residents themselves, who are most directly affected by drugs and drug-related crime, can have the most long-lasting effect by uniting together to fight the problem. The Public and Indian Housing Drug Elimination Program (PHDEP), sponsored by the Department of Housing and Urban Development (HUD), awards grants to empower residents to turn the tide against drugs and drug-related crime in their own communities. Money from these grants is put to a wide variety of uses, including the following:

—Employment of security personnel and investigators.
—Reimbursement of local law enforcement agencies for additional security.
—Physical improvements to enhance security.
—Voluntary tenant patrols.
—Drug prevention, intervention, and treatment programs.
—Security and drug prevention programs operated by resident management corporations, incorporated resident councils, and resident organizations.

WELFARE REFORM

Housing authorities applying for PHDEP funds are strongly encouraged to include in their comprehensive anti-crime strategies a discussion of how the proposed PHDEP drug and crime-prevention activities will be coordinated with larger Empowerment and Enterprise Zone strategies, and Welfare Reform efforts, especially in the areas of training and employment of PHA residents. The PHDEP application may include specific opportunities for resident employment and training with such activities as security guard personnel, housing authority police or local municipal police department law enforcement officers, and for referrals to employment and training opportunities in the health, education, substance abuse prevention, intervention, or treatment fields.

Many communities are already developing and providing such services, and housing authorities are strongly encouraged to provide community facility space to allow the provision of these services in and around public and Indian housing authorities. HUD also encourages applicants to implement collaborative efforts with local religious organizations in developing substance abuse prevention, treatment, and intervention strategies and programs.

PROVEN EFFECTIVE APPROACH

PHDEP's success is rooted in the fact that people respond better and become more involved in something that they have helped to build. Congress has shown its support for this approach by appropriating additional funding each year from $8.2 million in fiscal year 1989 to $290 million in fiscal year 1997. This significant increase in funding has allowed HUD to award 3,473 grants totaling more than $1 billion since 1989 to public and Indian housing agencies. Funding amounts vary for individual housing authorities based on their size and need. Last year, the smallest grant award was $25,000 and the largest was $35,000,000.

SELECTION CRITERIA

All applications received are reviewed against four selection criteria:

—Extent of drug-related problems in public or Indian housing communities.
—Quality of the plan to address drug-related problems and the method of evaluating the plan's success.

—Capability of the applicant to carry out the plan.
—Extent to which residents, the local government, and the local community support and participate in designing and implementing proposed activities.

FOR MORE INFORMATION

To receive more information on the Public and Indian Housing Drug Elimination Program, please write the Drug Information & Strategy Clearinghouse, P.O. Box 6424, Rockville, Maryland 20849, or call 1–800–578–DISC (3472).

PHDEP Totals 1991–1997

National Analysis:	
Number of Applicants	6,037
Number of Awards	3,604
Funding Awarded	$1,365,054,563

Area	*Total*
Funding by Area:	
New England	$75,178,761
New York/New Jersey	296,546,507
Midatlantic	135,960,285
Southeast	350,562,327
Midwest	210,348,848
Southwest	131,828,132
Great Plains	26,213,701
Rocky Mountain	22,989,359
Pacific/Hawaii	84,376,151
Northwest/Alaska	31,050,492
Breakdown of Funded Programs by Eligible Expense Category:	
Law Enforcement	437,568,459
Security	198,527,855
Investigators	35,994,717
Tenant Patrols	19,340,185
Physical Improvements	62,330,287
Prevention	400,293,434
Intervention	154,263,528
Treatment	69,191,332
Other Costs	58,231,963
Awards By State:	
Alabama (229)	53,395,126
Alaska (16)	2,383,077
Arizona (62)	13,602,071
Arkansas (60)	9,109,137
California (147)	56,529,904
Colorado (11)	7,023,905
Connecticut (78)	19,578,319
District of Columbia (6)	14,818,089
Delaware (15)	4,472,259
Florida (180)	47,743,273
Georgia (244)	57,783,432
Guam (1)	250,000
Hawaii (6)	6,971,665
Idaho (1)	93,300
Illinois (135)	87,237,106
Indiana (52)	16,128,559
Iowa (18)	1,748,360
Kansas (25)	4,845,712
Kentucky (82)	19,956,325
Louisiana (142)	23,313,439
Maine (11)	2,059,112
Maryland (42)	26,091,238
Massachusetts (102)	42,580,957
Michigan (75)	19,451,289
Minnesota (34)	15,623,025
Mississippi (91)	15,167,608
Missouri (79)	20,260,917
Montana (32)	6,072,072

Area	*Total*
Nebraska (9)	4,204,424
Nevada (27)	7,022,511
New Hampshire (22)	4,625,988
New Jersey (184)	59,130,847
New Mexico (44)	5,675,904
New York (182)	237,415,660
North Carolina (262)	54,911,316
North Dakota (12)	3,206,257
Ohio (87)	58,261,015
Oklahoma (85)	24,242,294
Oregon (23)	6,981,464
Pennsylvania (112)	54,866,251
Puerto Rico (4)	43,836,563
Rhode Island (22)	8,293,497
South Carolina (61)	12,757,172
South Dakota (17)	3,782,742
Tennessee (89)	39,638,842
Texas (215)	64,641,646
Utah (14)	2,598,633
Vermont (2)	100,000
Virginia (88)	30,051,637
Virgin Islands, U.S. (5)	5,372,670
Washington (63)	21,592,651
West Virginia (32)	5,660,811
Wisconsin (8)	11,588,742
Wisconsin (2)	305,750

GRANT DATA BY YEAR

Fiscal year	Number of grants awarded	Total funding awarded	Average amount of grant
1991	496	$140,775,000	$283,821
1992	426	140,550,000	329,930
1993	439	145,525,000	331,494
1994	520	228,884,574	440,162
1995	526	250,335,189	475,922
1996	665	259,000,487	264,827
1997	532	205,633,418	386,529

GRANT DATA BY AREA

Area	1991	1992	1993	1994	1995	1996	1997
New England	$7,635,809	$7,266,988	$7,596,913	$12,860,993	$14,823,972	$14,169,492	$12,785,694
New York/New Jersey	25,495,134	28,564,286	29,543,028	55,227,952	57,426,264	52,418,990	47,870,853
Midatlantic	13,361,779	13,797,442	14,929,111	21,232,422	26,764,697	26,258,879	24,973,795
Southeast	37,764,501	34,315,956	35,745,573	59,075,794	62,786,396	73,365,528	43,278,457
Midwest	22,196,459	20,660,267	21,211,867	31,567,262	34,272,866	36,217,213	35,464,009
Southwest	14,418,860	13,969,920	13,495,402	18,538,821	19,333,715	18,984,654	15,554,695
Great Plains	3,938,777	4,002,607	4,144,285	4,184,150	5,166,886	5,747,500	3,638,634
Rocky Mountain	1,018,910	1,373,601	1,253,514	1,640,850	1,444,685	2,317,034	1,657,480
Pacific/Hawaii	7,750,840	8,842,934	9,244,301	12,868,019	14,390,751	15,446,112	10,211,160
Northwest/Alaska	2,877,784	3,007,050	3,219,122	3,950,417	4,687,119	4,950,690	4,377,839
NONAP	4,436,147	4,650,584	5,141,884	7,737,894	9,237,838	9,097,395	5,820,801

PHDEP History—Total Dollars Awarded

[In millions of dollars]

1991	$140.80
1992	140.50
1993	145.50
1994	228.90
1995	250.30
1996	259.00
1997	205.60

Average Grant Award

1991	$283,821
1992	329,930
1993	331,494
1994	440,162
1995	475,922
1996	264,827
1997	386,529

APPLICATIONS RECEIVED AND FUNDED 1991–1997

Fiscal year	Funded	Received
1991	496	751
1992	426	903
1993	439	849
1994	520	828
1995	526	839
1996	665	978
1997	532	889

THE ARTS EFFECTIVELY DISCOURAGE DRUG USE—THE HOUSING AUTHORITY OF THE COUNTY OF MARIN, CALIFORNIA

The Housing Authority of the County of Marin's (MCHA's) performing arts program, which began as an eligible activity under the fiscal year 1995 Youth Sports Program (YSP) grant, had a significant effect on the lives of young public housing residents. Historically, blatant drug activity has been a prominent feature in Marin County's public housing communities. However, MCHA's successful arts program has contributed to a 29-percent decrease in drug-related crime in public housing from 1995 to 1996.

MCHA has contracted with the Performing Stars of Marin to bring its services to youth in public housing. The program received $14,300 in fiscal year 1997 PHDEP funding and $52,640 leveraged through partnerships with the Marin County Foundation, the Marin Ballet, Pacific Gas and Electric, Pacific Telesis, and the United Way's African-American Community Trust grant. These partners donate services, scholarships, and a variety of products, including uniforms and a van. Performing Stars of Marin has also been successful in its fundraising efforts.

Weekly classes in baton twirling, drill team, tap dance, music theory, and theater arts are held at the local Manzanita Center, various local schools, public housing facilities, and local childcare centers. The program enrolls 200 children between 5 and 13 years of age, 85 percent of whom are residents of public housing. Students who are waiting for openings in the program enroll in preparatory classes that help to assess and channel their individual talents and interests. Field trips to cultural events are also included in program activities. Monthly meetings that involve parents, grandparents, and other guardians are held monthly to demonstrate family support and applaud the children's efforts. Scholarships from the Marin Ballet are made available to exceptionally gifted and hard-working students.

There are many benefits of this program. Self-expression in the performing arts allows children to channel their aggression and emotions into constructive, creative veins. The students are also learning valuable life skills that will enable them to confront life's obstacles head on and develop pride in their accomplishments, an alternative to the instant gratification that drugs provide. Exposure to new ideas, new people, and new possibilities for the future not only helps the children combat the isolation that comes from living in public housing and can result in drug use, but it stretches their horizons.

For more information, contact: Housing Authority of the County of Marin, P.O. Box 4282, San Rafael, CA 94913, (415) 491–2525, (800) 735–2929 (TDD).

	Fiscal year		Percent change
	1995	1996	
Incidents of Drug-Related Crime	157	111	−29

Marin County PHDEP Funding History: Fiscal Years 1991–1997

1991	.....
1992	$250,000
1993	183,700
1994	89,309
1995	89,845
1996	244,170
1997	149,900

DRUG ACTIVITY REDUCED BY LAW ENFORCEMENT PROGRAMS—DANBURY HOUSING AUTHORITY, CONNECTICUT

The Danbury Housing Authority's (DHA's) law enforcement programs have made positive strides toward eradicating crime in targeted public housing neighborhoods: Eden Drive, High Ridge Gardens, and Laurel Gardens. Law enforcement programs at DHA sites received $84,000 in PHDEP funding in fiscal year 1997 and another $5,000 contribution from DHA. In addition to an increased police presence at targeted sites, DHA's policing programs have contributed to an improvement in police response time and problemsolving between residents and police. One resident commented, "It wasn't always such a safe place to live, but with help from the police patrol, our neighborhood has been cleaned up." These improvements in safety are quantifiable: Policing efforts have resulted in a 74.7-percent decrease in drug activity at targeted sites between 1995 and 1996.

To implement its Community Policing Program, DHA has an ongoing contract with the Danbury Police Department. Uniformed police officers patrol targeted sites on foot and perform various other policing duties, including responding to calls for assistance. These officers are developing mutually beneficial relationships with residents and encourage partnership for implementation of Neighborhood Crime Watch initiatives. To be more efficient in their services, officers' shifts correspond with the times when criminal activity is highest as determined by police incident reports. These reports continue to be maintained and studied on a monthly basis and police shifts are adjusted as needed.

DHA introduced its site-based police ministations, which are housed in the neighborhood community resource centers, in November 1994. These ministations have been particularly effective in increasing police visibility by bringing officers directly into the targeted neighborhoods. Foot patrol officers, special narcotics officers, and beat officers work out of these ministations on a regular basis. Using community policing strategies, the ministations augment existing routing patrols and drug investigations. By allowing police to witness drug activity in targeted communities on a regular basis, the ministations also improve the process of identifying, investigating, arresting, and evicting residents and visitors who sell drugs.

For more information, contact: Housing Authority of the City of Danbury, P.O. Box 86, Danbury, CT 06813–0086, (203) 744–2500.

	Fiscal year		Percent change
	1995	1996	
Drug Activity in Targeted Public Housing	87	22	−74.7

Danbury PHDEP Funding History: Fiscal Years 1991–1997

1991	.....
1992	.....
1993	.....
1994	$121,200
1995	201,000

1996	201,100
1997	125,100

TEACHING KIDS TO LIVE DRUG FREE—FRAMINGHAM HOUSING AUTHORITY, MASSACHUSETTS

The Framingham Housing Authority (FHA) has made available to its resident youth a variety of programs that help them deal with the pressures in life that can lead to substance abuse and other crimes. A bond between Framingham police officers and FHA youth has been effective in changing behaviors and, consequently, reducing crime. Between 1994 and 1996, FHA has seen a 26-percent decrease in Part 1 crimes in its public housing areas.

A $25,000 COPS and KIDS program grant allows the Framingham Police Department and FHA to occupy children with constructive activities during the hours that they are not in school. Programs operate in two public housing communities and at scattered sites within walking distance of middle schools attended by resident youth. FHA transports the students to the satellite sites. A mentoring program was established in the Fall of 1997, bringing in and training volunteers from the Framingham Police Department, FHA, the local courts and probation department, Framingham Park and Recreation Department, Framingham schools, the Framingham Fire Department, and local colleges.

FHA has implemented several COPS and KIDS youth programs, which are focused on teaching kids how to channel their energies in constructive, nonviolent ways, to seek alternatives to violence, to become leaders, to counsel their peers, and to avoid drugs and alcohol. A computer laboratory has been created and staffed with mentors to allow youth the opportunity to learn while having fun. Youth learn leadership, teambuilding, and conflict resolution skills. Sports activities include mountain biking and the popular boys' and girls' boxing program, which is an incentive for kids to stay out of trouble. A teen counseling hotline has been established and both middle school students and high school juniors and seniors are being trained to counsel and mentor peers and younger teens. Other programs currently being offered to youth are tutoring, ESOL, and drug education. In the Summer of 1998, the program will include youth community service and neighborhood beautification projects.

These programs have made a difference in the lives of community youth. One resident, whose three children are involved in the drug, alcohol, and violence prevention activities, explains, "Our children are our most important asset and teaching them while they are young will really benefit them in adulthood."

For more information, contact: Framingham Housing Authority, 1 John J. Brady Drive, Framingham, MA 01702–2300, (508) 879–7562.

	Fiscal year			Percent change
	1994	1995	1996	
Part 1 Crimes Framingham	208	180	153	−26

PHDEP Funding History: Fiscal Years 1991–1997

1991	.....
1992	.....
1993	.....
1994	.....
1995	.....
1996	.....
1997	$70,500

EDUCATION PROGRAMS REDUCE VIOLENT CRIME—NEW BEDFORD HOUSING AUTHORITY, MASSACHUSETTS

Attention to learning and personal growth characterizes the New Bedford Housing Authority's (NBHA's) education programs. In a city that was called the most violent city in New England in 1991, NBHA's personal and educational enrichment programs have contributed to a 69-percent reduction in violent crime in targeted NBHA developments between 1994 and 1996.

NBHA's award-winning Family Learning Center (FLC) is located in the convenient Mount Pleasant School and is currently funded by a $51,000 PHDEP grant. More than 100 students in grades 4 through 6 participate in daytime and after-school educational programs. On the average, students' skills have improved 1.15

grade levels in vocabulary and 1.07 grade levels in reading comprehension. The 1996/97 school year brought the addition of a special education class that has enjoyed similar success.

Adult education classes are also offered at the FLC and include English for speakers of other languages, (ESOL); General Equivalency Diploma, (GED) preparation courses; and the Computerized Competencies Program, which allows students to learn to use computers and software in a self-directed atmosphere. More than 50 adults are enrolled. ESOL students have, on the average, achieved a command of the English language equivalent to the third grade level. Of the 26 adults who attended GED classes regularly, 19 have received their GED's. Many others are building career skills.

Several extracurricular activities, which are funded under the single FLC sum, are giving more than 200 children the power of knowledge and a safe haven while relieving parents' childcare burden. The Smart Moves program, which received $14,560 in PHDEP funds in fiscal year 1997, is sponsored by the Boys & Girls Club of Greater New Bedford and educates youth about the risks of sexual activity and the use of drugs and alcohol. Changing Lives Through Literature, which received $2,400 in PHDEP funds in fiscal year 1997, emphasizes the joy of reading and is cosponsored by NBHA, the Third District Court of Bristol County, and the Mt. Pleasant School. The Purple Bus, an artmobile from the New Bedford Art Museum, received $5,200 in PHDEP funds in fiscal year 1997 and brings art classes to children in NBHA's public housing developments. Other activities draw from a wealth of community resources and have also been effective in the overall drug-prevention effort.

For more information, contact: New Bedford Housing Authority, P.O. Box 2081, New Bedford, MA 02741, (508) 9974800, (508) 997–5338 (TDD).

	Fiscal year			Percent change
	1994	1995	1996	
Rate of Violent Crime New Bedford	88	74	27	−69

PHDEP Funding History: Fiscal Years 1991–1997

1991	.....
1992	$250,000
1993	316,696
1994	412,500
1995	412,500
1996	401,750
1997	428,220

EMPLOYMENT ASSISTANCE EFFECTIVELY COMBATS DRUGS—NEWPORT NEWS REDEVELOPMENT AND HOUSING AUTHORITY

The Newport News Redevelopment and Housing Authority (NNRHA) takes a multifaceted approach to support residents both in their transition from welfare to the workplace and independence and in avoiding the temptation to use drugs. NNRHA has forged ties with several area government, public service and religious organizations, and other community partners. The success of this program is evident in the 32-percent decrease in violent crime between 1995 and 1996.

Virginia's Initiative for Employment not Welfare (VIEW) began on October 1, 1997, and a large portion of those enrolled in the program are residents of NNRHA neighborhoods. In support of this program, NNRHA assigned a caseworker to involve residents in welfare-to-work initiatives and assorted NNRHA-sponsored programs. NNRHA has also assigned a courier to provide transportation for residents enrolled in job-readiness programs.

Funded by a $554,750 PHDEP grant in fiscal year 1995 and a 3-year, $770,700 Economic Development and Supportive Services (EDSS) grant in 1996, the Job Training/Computer Education Program is intended to discourage drug use and its associated behaviors by teaching constructive training in alternative living habits and eventual self-suffficiency. Program offerings include computer skills, life skills, job readiness, personal development, communication and conflict resolution, parenting, stress management, financial management, home management, understanding welfare form, and job-search skills. Several of these programs are housed in the Family Investment Center (FIC), which opened its doors in 1997 and is funded by

a 5-year, $1 million HUD Family Investment Center Grant. Located beside the local Head Start facility, FIC also provides space for childcare.

NNRHA gives residents an incentive to utilize FIC programs; when they complete 80 hours of education and/or training and secure a job, they are awarded an 18-month rent freeze. Between 1995 and 1997, 79 participants completed training and 48 of those have found work. One resident said, Computer and education classes are teaching me to be self-sufficient and a positive influence for my neighbors and family. Since this program costs nothing to attend, it allows me to get top-rate skills and lessens the pressures of finances in order for me to attend computer classes. I am now a confident and highly motivated person."

For more information, contact: Newport News Redevelopment and Housing Authority, P.O. Box 77, Newport News, VA 23607–0077, (757) 247–9701, (757) 247–6535 (TDD).

	1995	1996
Rate of Violent Crime	131	89

Newport News PHDEP Funding History: Fiscal Year 1991–1997

1991	.....
1992	$453,800
1993	457,800
1994	554,750
1995	554,750
1996	509,750
1997	556,140

JOBS PROVE SUCCESSFUL ALTERNATIVE TO DRUGS—HOUSING AUTHORITY OF THE CITY OF OAKLAND, CALIFORNIA

The Housing Authority of the City of Oakland (OHA) is giving its residents a reason to stay off drugs: It is giving them jobs. Its resident employment programs have had a drastic impact on crime in the community, with a 59-percent drop in narcotics arrests between 1995 and 1996.

OHA started its resident employment program, in response to residents' need for job training and placement assistance. Now beginning its third year, the program receives $80,000 in comprehensive grant funds. OHA has united with the following HOPE VI partners to provide job training for residents: the Private Industry Council, the East Bay Conservation Corps, the Spanish Speaking Citizens' Foundation, East Bay Small Business Development, the Spanish Speaking Unity Council, and the East Oakland Youth Development Center. Assorted building contractors and architects also contract to work for OHA.

OHA maintains the Job Skills Databank, which keeps the records of residents' skills so that they can be referred to employers and job-training programs suitable to their skill level. The Resident Internship Program, which in its second year employed several residents who were registered with the databank, gives residents the opportunity to learn and accumulate a year of on-the-job training and experience working at OHA. The success of the program in its first year allowed it to add several new positions in its second year. One first-year intern is now employed full-time with OHA's finance department and the other is working full-time with a private company.

Two other employment programs are making a difference in the lives of residents. A 3-year, $250,000 HUD Apprenticeship Demonstration Program grant and a partnership with the United Brotherhood of Carpenters and the International Brotherhood of Painters and Allied Trades have given young public housing residents valuable trade training. Sixteen residents, ages 17 to 25, are currently receiving training in carpentry and construction while reviewing basic reading and math skills. As part of its fiscal year 1997 plan, OHA's community policing program, which is funded by a combination of PHDEP and comprehensive grant funds and money from OHA's operating budget, is hiring two residents, to work as public safety aides. These residents will assist PHDEP security officers with a variety of tasks and have access to information and guidance should they show interest in a law enforcement career.

For more information, contact: Housing Authority of the City of Oakland, 1619 Harrison Street, Oakland, CA 94612, (510) 874–1500.

	1995	1996	Percent change
Narcotics	[1] 49	[1] 20	−59

[1] Per 1,000 people.

Oakland PHDEP Funding History: Fiscal Year 1991–1997

1991	$620,000
1992	661,158
1993	660,098
1994	824,756
1995	824,987
1996	824,961
1997	858,000

REFORMING THE PUBLIC HOUSING AUTHORITIES

Senator LAUTENBERG. In search of reform, do you have a general view of what is happening in public housing authorities across the country with whom HUD works? We have seen scandal after scandal over the years in my State and other States across the country. Is there a change in the audit or examination procedures now that gives you a degree of comfort in terms of the reliability of the performance, the management of these facilities that are under the public housing administrations that gives you a chance to intervene when things start to go awry there?

Secretary CUOMO. Today, Senator, frankly no. In the next several months, I believe the answer will be different. We do not have at this time, in my opinion, an adequate assessment system of public housing in this Nation. Now keeping in mind the overall context which is there are 3,400 public housing authorities, and the vast majority of them are working very well and the troubled are a small relative number. But I am not confident in the system that we now have as an assessment system.

We are moving to a new system which will be the first national evaluation of our portfolio. Physical inspection of all the properties by an independent party. Real estate management is fairly simple. What does the building look like and what do the finances look like? I cannot tell you that today. We do not have an independent physical evaluation of all the public housing projects. We will. We do not have an independent assessment of the finances of all the public housing authorities. We will, and we will then put those two elements together. We will be able to rank the portfolio and then focus on the troubled ones and give some flexibility to the high performers, which is what we are trying to get at here. Get the high performers, give them some flexibility. If they are working well, God bless them. Give them the tools. Let them do the job. If they are troubled or if there is fraud or if there is waste, let us get in there aggressively. We have to be able to tell the two apart to do that, and I do not think the system that we have today does that adequately.

Senator LAUTENBERG. Thanks very much. Thanks, Mr. Chairman.

Senator BOND. Thank you, Senator Lautenberg.

Senator Craig.

EMERGENCY SUPPLEMENTAL PROVIDED HUD

Senator CRAIG. Mr. Chairman, thank you.

Mr. Secretary, let me come to an issue that is of great concern of mine, and you and I have had some conversation on it over the last several weeks. Now I find out that it is not just my concern. It has spread here in the committee. The clerk of the committee has requested information and the chairman this morning in his opening comments used the word red flag as it relates to the $500 million in emergency supplemental provided HUD in an emergency CDBG funding that really was unprecedented as it relates to the complement of the funding for disaster relief under FEMA and other disaster relief programs.

Having said that and we know the template of which I am talking about, my State of Idaho last year had two presidentially declared disasters, for anybody's information who is interested, disaster 1154 and 1177. As a result of that, the State of Idaho made certain requests. Last fall, HUD demanded, and I am told on a 24-hour notice, a complete assessment of unmet needs for disasters that I have just mentioned. The State assessment included $8 million for the first disaster and $13 million for the second, for a total of $21 million.

But the State very clearly said that of all of our priorities, the second disaster which included the replacing of a critical flowway of water under Milo Creek and two communities in north Idaho was the priority, the single most important priority. It is interesting that in response HUD released $2.8 million of disaster relief for the first disaster declared but not the second, not the State's priority, about 13 percent of the request.

Now, I could go on down through this, but I am curious about several things. I do not expect you to be able to answer all of them here today.

But in looking at all of this, this was a tremendously high priority. It involves human health and sanitation, untreated sewage flowing down the main streets of a community, and it was a critical need. The State put money into it. They brought other Federal agencies in, and HUD's was the matching.

Now, of that $4 million request, our conversations—and I appreciate that. You suggested the ability to release about $377,000 for that particular project.

I guess my question is beyond the scope, the nature of the public health and the safety of the issue. Combined, these two HUD grants add up to about 15 percent of the unmet needs of my State, and I would like to know if this is the same formula, the 15 percent funds requested that HUD has applied to other States' requests because what I am finding out in letters that while it is argued that—and let me read a quote from a letter that has been received by the committee from Assistant Secretary DeCell.

The Department has developed a web-based reporting system to simplify reporting by the guarantees on the use of CDBG disaster funds. HUD is in the process of seeking OMB approval for data collection and compliance with the Paperwork Reduction Requirements Act so that it can populate the system with data. All of the allocations for the 1997 CDBG emergency supplemental appropriation of $500 million have been announced.

But it goes on to conclude that we do not really have an accounting of it. As of February 28, 1998, HUD had obligated $265.7 million and disbursed $58.3 million. I guess I can add up that there is close to a couple hundred million dollars of unobligated.

And I am curious, as is the committee, of how that money got distributed and under what allocation formula and spread out amongst the States with designated Presidential disasters. Am I looking at something that is reasonable and right based on the State's ability to perform and its ability to match all these moneys coming together?

Because without question, Mr. Secretary, of all of our difficulties in the last weather cycle of 1997, the Milo Creek problem in Kellogg and Wardner, ID, is the greatest of all. And the State offered that priority and somehow HUD appeared to ignore it and say, no, it will fund these but we will not fund this. Of course, the problem with that project is it is about an $11 million project, and you do not just start something like that and let it sit. You have got to have all of the money together before you launch a project of that nature.

So, I have asked you several questions in combination, but I think the committee is obviously very concerned about the overall accountability of that emergency money and how it has been allocated.

DISBURSEMENT OF EMERGENCY SUPPLEMENTAL

Secretary CUOMO. Senator, there were a number of elements to the question that you asked. Let me touch on a few of them and then any that I do not touch on I will either follow up or get you information after this hearing.

The way the program works is basically this. We had $500 million at the beginning of the fiscal year, and we have a formula which takes into account what we call the unmet buyout need which is a FEMA calculation, the unmet housing loss, which is an SBA calculation, unmet business physical damage loss, which is another SBA calculation, and relative need to State gross product. So, we have a number of factors which are part of a formula that we used to allocate the $500 million to whatever that need is.

Every disaster is a multiple of what we provided through CDBG. Every disaster.

When we began the year, we were making those allocations out of the $500 million. When we ran that formula against the $500 million, the State got $2.8 million. That was in October 1997. The second disaster happened for us at the end of the cycle. We only had $17 million left when the State made the second request, and we were allocating that $17 million to a much larger universe. Of that $17 million, the formulaic allocation was $377,000. That is as a Senator, a question of timing and the availability of resources.

When we started the program year and the first request came in, we were allocating on a base of $500 million. Again, nobody got what they needed. They only got a fraction of what they needed, but we were running the formula against $500 million. When we got to the end of the year, the funding was basically all exhausted. There was just a $17 million amount left, and we did the allocation against the $17 million. And that is where the $377,000 came from.

But I can get the committee all the allocations, the formula used. You will see that those disasters which were early in the cycle, which basically were the disasters which stimulated the $500 million in the first place, got the funding by a formula. Then, as the program was authorized to handle disasters as they came up through the year, at the end of the year we had a very small amount of money left, and that is what we were allocating.

[The information follows:]

SUMMARY OF HUD DISASTER RECOVERY ALLOCATION CALCULATION

Under Public Law 105–18, signed by the President June 12, 1997, Congress appropriated:

> "an additional amount for 'Community development block grants fund' as authorized under title I of the Housing and Community Development Act of 1974, $500,000,000, of which $250,000,000 shall become available for obligation on October 1, 1997, all of which shall remain available until September 30, 2000, for use only for buyouts, relocation, long-term recovery, and mitigation in communities affected by the flooding in the upper Midwest and other disasters in fiscal year 1997 and such natural disasters designated 30 days prior to the start of fiscal year 1997, except those activities reimbursable or for which funds are made available by the Federal Emergency Management Agency, the Small Business Administration, or the Army Corps of Engineers * * *"

Using the legislation as its guide, the calculation used to allocate the supplemental CDBG disaster appropriation reflects the following three tenets:

(1) Meet unmet buyout/mitigation need and other unmet housing and economic losses.

(2) States with more recent disasters will require relatively more funding to recover than states with disasters at an earlier time.

(3) The larger the amount of unmet need relative to an area's overall economy, the more Federal assistance it will need to recover.

The allocation is a two step process. The first step allocates funds to states and the second step does a substate allocation to direct grantees.

The state-level allocation uses the following calculation:

Each state receives funding for buyout/mitigation need.

Remaining funds are allocated by formula using the following method:

—.40 (share of unmet economic loss) + .60 (share of unmet home loss) adjusted by the amount of time since the disaster ended adjusted by the relative impact the unmet loss has on the local economy

Where,

—unmet economic loss means unmet agricultural loss as reported by the U.S. Department of Agriculture (USDA) plus the total loss for businesses, rental properties, and nonprofit organizations denied Small Business Administration (SBA) disaster loans; and

—unmet home loss means the total loss for homeowners denied SBA disaster loans less the amount of Individual and Family Grants provided to homeowners by FEMA.

If a state would be allocated less than $250,000 under the calculation, it receives no allocation and the amount is redistributed to the remaining states.

The local level allocation is as follows:

Less data are available at the substate level than at the state level, so substate allocations are made using the following data:

—Each local community's share of its state's unmet buyout need,

—The local community's total unmet loss for homes and economic need,

—Remaining need for Federal dollars and jurisdiction capacity.

1997 HUD DISASTER RECOVERY INITIATIVE

Grantee	County name	Allocation
MOBILE, AL	MOBILE	679,777
BALDWIN COUNTY, AL	BALDWIN	981,301
MOBILE COUNTY, AL	MOBILE	935,102

1997 HUD DISASTER RECOVERY INITIATIVE—Continued

Grantee	County name	Allocation
STATE TOTAL, AL		2,596,180
PULASKI COUNTY/COLLEGE STATION, AR	PULASKI	687,989
STATE GRANT, AR		686,446
STATE TOTAL, AR		$1,374,435
MODESTO, CA	STANISLAUS	650,426
SACRAMENTO, CA	SACRAMENTO	320,780
SACRAMENTO COUNTY, CA	SACRAMENTO	400,704
SAN JOAQUIN COUNTY, CA	SAN JOAQUIN	1,174,098
SONOMA COUNTY, CA	SONOMA	547,804
STANISLAUS COUNTY, CA	STANISLAUS	575,921
YUBA COUNTY, CA	YUBA	2,563,780
STATE GRANT, CA		5,338,112
STATE TOTAL, CA		11,571,625
FORT COLLINS, CO	LARIMER	511,740
STATE GRANT, CO		156,829
STATE TOTAL, CO		668,569
STATE GRANT, FL		512,116
STATE GRANT, ID		3,219,750
CHICAGO, IL	COOK	900,000
STATE GRANT, IL		607,052
STATE TOTAL, IL		1,507,052
STATE GRANT, IN		6,511,863
HOPKINSVILLE, KY	CHRISTIAN	447,174
JEFFERSON COUNTY, KY	JEFFERSON	2,068,840
LOUISVILLE, KY	JEFFERSON	2,000,197
OWENSBORO, KY	DAVIESS	336,116
FALMOUTH CITY, KY	PENDELTON	2,186,005
BOURBON COUNTY, KY	BOURBON	587,852
CYNTHIANA CITY/HARRISON COUNTY, KY	HARRISON	867,560
FRANKFORT CITY/FRANKLIN COUNTY, KY	FRANKLIN	717,760
PENDELTON COUNTY, KY	PENDELTON	567,439
SHEPHERDSVILLE CITY/BULLITT COUNTY, KY	BULLITT	1,488,753
STATE GRANT, KY		4,484,904
STATE TOTAL, KY		15,752,600
BOSTON, MA	SUFFOLK	228,534
LAWRENCE, MA	ESSEX	333,300
SALEM, MA	ESSEX	505,421
STATE GRANT TARGETED TO ESSEX COUNTY, MA	ESSEX	3,491,075
STATE GRANT SUBTOTAL FOR OTHER AREAS, MA		806,369
STATE GRANT TOTAL, MA		4,297,444

1997 HUD DISASTER RECOVERY INITIATIVE—Continued

Grantee	County name	Allocation
STATE TOTAL, MA		5,364,699
STATE GRANT, MD		469,601
STATE GRANT, ME		782,332
DETROIT, MI	WAYNE	3,336,146
WAYNE COUNTY, MI	WAYNE	975,582
STATE GRANT, MI		415,552
STATE TOTAL, MI		4,727,280
EAST GRAND FORKS CITY, MN	POLK	20,469,522
STATE GRANT, MN		71,567,909
STATE TOTAL, MN		92,037,131
STATE GRANT, MT		863,522
CHAPEL HILL, NC	ORANGE	349,041
DURHAM, NC	DURHAM	342,902
FAYETTEVILLE, NC	CUMBERLAND	320,093
GOLDSBORO, NC	WAYNE	648,674
JACKSONVILLE, NC	ONSLOW	308,188
RALEIGH, NC	WAKE	3,002,052
WAKE COUNTY, NC	WAKE	1,332,066
WILMINGTON, NC	NEW HANOVER	740,794
BEAUFORT COUNTY, NC	BEAUFORT	1,421,128
CRAVEN COUNTY, NC	CRAVEN	1,338,999
JOHNSTON COUNTY, NC	JOHNSTON	1,519,812
KINSTON CITY/LENOIR COUNTY, NC	LENOIR	10,922,932
NEW HANOVER COUNTY/WRIGHTSVILLE BEACH TOWN, NC	NEW HANOVER	1,853,170
ONSLOW COUNTY, NC	ONSLOW	1,347,205
PENDER COUNTY/SURF CITY, NC	PENDER	3,670,386
STATE GRANT, NC		6,569,270
STATE TOTAL, NC		35,686,712
FARGO, ND	CASS	5,943,963
GRAND FORKS, ND	GRAND FORKS	171,567,707
CASS COUNTY, ND	CASS	1,400,000
GRAND FORKS COUNTY, ND	GRAND FORKS	2,176,049
MERCER COUNTY, ND	MERCER	500,000
PEMBINA COUNTY, ND	PEMBINA	1,000,000
DEVILS LAKE/RAMSEY COUNTY, ND	RAMSEY	3,500,000
RICHLAND COUNTY/WAHPETON, ND	RICHLAND	3,470,759
TRAILL COUNTY, ND	TRAILL	1,000,000
WALSH COUNTY, ND	WALSH	504,504
STATE GRANT, ND	BURLEIGH	10,200,140
STATE TOTAL, ND		201,263,122
STATE GRANT, NH		557,750
RENO, NV	WASHOE	651,733
SPARKS, NV	WASHOE	988,442

1997 HUD DISASTER RECOVERY INITIATIVE—Continued

Grantee	County name	Allocation
STATE GRANT, NV		386,714
STATE TOTAL, NV		2,026,889
CINCINNATI, OH	HAMILTON	423,621
CLERMONT COUNTY/NEW RICHMOND, OH	CLERMONT	506,342
SCIOTO COUNTY, OH	SCIOTO	588,670
STATE GRANT, OH		1,263,631
STATE TOTAL, OH		2,782,264
ASHLAND, OR	JACKSON	573,391
STATE GRANT, OR		3,721,775
STATE TOTAL, OR		4,295,166
MONTGOMERY COUNTY, PA	MONTGOMERY	650,797
STATE GRANT, PA		287,832
STATE TOTAL, PA		938,629
BAYAMON MUNICIPIO, PR	BAYAMON	5,404,219
CAGUAS MUNICIPIO, PR	CAGUAS	273,646
CAYEY MUNICIPIO, PR	CAYEY	1,552,491
HUMACAO MUNICIPIO, PR	HUMACAO	324,035
PONCE MUNICIPIO, PR	PONCE	4,590,285
SAN JUAN MUNICIPIO, PR	TRUJILLO ALTO	315,218
TOA ALTA MUNICIPIO, PR	TOA ALTA	397,906
TOA BAJA MUNICIPIO, PR	TOA BAJA	1,478,336
COMMONWEALTH GRANT SUBTOTAL, PR		15,172,960
COMMONWEALTH TOTAL, PR		29,509,096
RAPID CITY, SD	PENNINGTON	642,102
STATE GRANT, SD		57,794,124
STATE TOTAL, SD		58,436,226
STATE GRANT, TX		2,223,138
STATE GRANT, VA		780,000
STATE GRANT, VT		1,219,587
KING COUNTY, WA	KING	613,353
KITSAP COUNTY, WA	KITSAP	387,225
SEATTLE, WA	KING	601,694
SNOHOMISH COUNTY, WA	SNOHOMISH	575,522
YAKIMA, WA	YAKIMA	204,646
STATE GRANT, WA		2,420,113
STATE TOTAL, WA		4,802,553
HAMPSHIRE COUNTY, WV	HAMPSHIRE	533,181
KANAWHA COUNTY, WV	KANAWHA	581,547

1997 HUD DISASTER RECOVERY INITIATIVE—Continued

Grantee	County name	Allocation
STATE GRANT, WV		2,333,420
STATE TOTAL, WV		3,448,148
MILWAUKEE, WI	MILWAUKEE	1,455,474
MILWAUKEE COUNTY, WI	MILWAUKEE	936,469
WAUWATOSA, WI	MILWAUKEE	831,325
WAUKESHA COUNTY, WI	WAUKESHA	677,135
STATE GRANT, WI		171,261
STATE TOTAL, WI		4,071,664
TOTAL GRANT AWARDS		500,000,000

Senator CRAIG. Well, Mr. Secretary, I do appreciate that explanation and it certainly fits with the circumstances and the figures that have been applied. There is no dispute there. But I will say that I think by the request of the committee and the committee staff and the concern of the chairman and myself, that accounting and how all that money got allocated is something we are concerned about not just for Idaho but half a billion dollars happens to be quite a bit of money. It apparently has not been forthcoming. We would hope it could be.

Senator BOND. Thank you, Senator Craig, for reemphasizing that point.

Senator MIKULSKI. Is that a vote or what is that?

Senator BOND. It looks like we are going into recess maybe.

Senator MIKULSKI. Mr. Chairman, could we have a followup to Senator Craig about the public utility issue coming up?

Senator BOND. Let me allow Senator Burns.

Senator MIKULSKI. And then we will come back.

Senator BOND. Because I think you and I may have a little more time.

Senator MIKULSKI. OK. Very good.

Senator BOND. If you can check and find out——

Senator MIKULSKI. Yes, what could all that mean?

Senator BOND. I think we are probably trying a new legislative day. I think it is one of those parliamentary tricks.

Senator MIKULSKI. I think that is some of the Architect of the Capitol staff complaining about downsizing. [Laughter.]

Secretary CUOMO. Well, there are more red lights flashing, whatever it is.

Senator BOND. Senator Burns.

Senator BURNS. Thank you, Mr. Chairman. It will not take me very long. I have just got a couple of areas of concern.

FOREST SERVICES' MORATORIUM ON BUILDING ROADS

First of all, Mr. Secretary, thank you for returning the phone call the other day. I appreciate that. We have talked about that one problem. We have got a couple of them in Montana, and I will not

bring them up here because I do not think that would do anything to further the hearing here.

I would like to make a comment, though. The Forest Service has put a moratorium on building roads out in our part of the country. It is costing us timber sales. They said they had to do that in order to reassess and do this.

I cannot believe that you run a $25 billion outlay here and it does not have an accounting system to really monitor on what is going on just about everywhere. That is like a humongous undertaking, between you and I. I do not fault you in this because you are just the new kid on the block. I think it is incumbent on us, working with you, to come up with some way that we can account for this money. That is the reason I think that it has been so loosely run in HUD that it has opened up some activities that are a little on the unsavory side.

HOUSING FUNDS FOR INDIAN COUNTRY

I do want to bring up this thing with our housing funds in Indian country. I do not know what the real answer to that is, but I understand that you have a report back from OMB. I have not seen that report. I would like to, if I possibly could. In a fair housing situation that we have in Montana, I want to just issue an invitation to come down to the office or I come to your office, one way or the other, and I think with the proper staff involved, maybe we can work out and get some answers to some of these problems. Would you accept an invitation like that?

Secretary CUOMO. It would be my pleasure, Senator.

Senator BURNS. We could get a ways through this. But I am really concerned. This administration gives a lot of—we hear a lot of rhetoric coming out of there on what they are going to do for Indian country. Then the followthrough has not been very good. I have got some people—it is wintertime in my end of the world, and I am concerned for people who live on those reservations and I will continue to be, as I am with their education and their economic opportunity. I just do not want to see anything slow up that pipeline.

So, that is the only question that I have. If we could get together in the next couple of weeks or so or at your convenience at your place or my place—it does not make any difference—or a coffee shop in between. [Laughter.]

It does not make any difference. Or under a tree. I think we just need to have a sitdown and exchange some ideas and straighten some things out. There are some misunderstandings. Let us get by those misunderstandings and try to solve some problems.

Thank you very much for coming this morning. I appreciate this opportunity. If we could work that out, I would be very appreciative.

Secretary CUOMO. It would be my pleasure, Senator.

FINANCIAL INFORMATION SYSTEMS

First, if I might, on the financial information systems. We had a major problem on the financial systems and tracking the money. It is much better today than it was a year ago. We had 89 separate financial systems in the Department. We are integrating them into one.

Senator BURNS. Unbelievable.

Secretary CUOMO. Yes; it was not a good situation, let us put it that way.

It is a much different situation today. I mentioned in my opening testimony, the first Federal Department to have its budget in on time this year to OMB was HUD which was unheard of a few years ago, and the numbers all added up. Not only were we first but we were accurate, which is always nice.

Senator BURNS. You got to remember that Senators only learn to count to 51. [Laughter.]

INDIAN COUNTRY

Secretary CUOMO. When the Senator called on the concern about the Indian funding, we got on that right away, Senator. You were correct. This was a very new approach. It was a new piece of legislation. It raised some problems with OMB. It raised some problems internally with some of the various offices in the Department that were trying to stop it.

We cleared all that away. I am pleased to tell you that today, Senator, the funding will be available to Indian tribes who need it. Literally today the operating funds are available, and we are getting that word out. We are contacting the tribes by telephone as well as on the Internet and we have published a notice. So, that funding is out and is available.

It would be my pleasure to meet with you, Senator, and it would be my pleasure to come to your office. I spend a lot of time in the HUD building and any excuse to get out I take. So, I am glad to come see you.

Senator BURNS. You ought to do that, but you are just moving from one barn to another.

Thank you, Mr. Chairman, I appreciate that, and I appreciate the openness of the Secretary. We can work our way through these things.

Senator BOND. Senator Craig, do you have any last comments that you would like to add, or Senator Burns, I would be happy to——

Senator BURNS. I am going to go vote and save the Nation. [Laughter.]

Senator BOND. That makes me feel good all over. [Laughter.]

We will adjourn the hearing. As you have noticed, Senator Mikulski has gone ahead. When she comes back, I will ask her to take over the gavel and to conduct questioning. I will return as quickly as I can. We thank our colleagues.

Thank you, Mr. Chairman. You and the others here can rest for a few minutes. We stand in recess.

[A brief recess was taken.]

Senator BOND. The hearing will reconvene, if you will please take your seats.

Thank you, Mr. Secretary. I apologize for the delay.

ASSISTED GRANT PROGRAMS

Let me ask a couple questions. I mentioned the McKinney homeless program. Then we talked about some of the confusion and the complaints. What happened with the funding for these ongoing as-

sisted grant programs? Can you tell us how these are supposed to work? What will I tell Sister Lorraine and the people who run Kitchens and their clients if they go out of business in the next coming months?

Secretary CUOMO. Mr. Chairman, what you can say is, why did the local government, the city make the decision not to prioritize Kitchens as their No. 1 priority?

What we have done with the homeless program is just what the chairman said should be the way we should go. We do not make these decisions in Washington anymore. We at one time did. Now we say to the local city, the State, whatever the case may be, you tell us what program you believe you need most. Put that at the top of your list and then we will bring a competition to bear because we want performance, not blank check government. We want to make sure we are funding the best programs out there, but you prioritize. We then run a competition and then we allocate the funds the best we can, but we are leaving the decisions to local government.

Renewals mean we funded some programs last year, the year before, et cetera. Should they get funded again? We do not know here in Washington. We say to the local government, do you need that program more than any other program, and they literally give us a list of priorities. We just work our way down their list.

Senator BOND. All right, and I assume that the increase in homeless grants would be utilized in the same manner.

Secretary CUOMO. Same manner. In other words, we allocate based on the local government's priorities. The local government decides whether or not a renewal should be funded, not Washington. It is a major shift in the way we are doing business. It follows all the principles that the chairman laid out as the direction for HUD to follow, HUD using the devolution approach, deferral to local government.

[The information follows:]

FISCAL YEAR 1997 CONTINUUM OF CARE HOMELESS ASSISTANCE COMPETITION—SUMMARY OF RESULTS

THE KITCHEN, INC., SPRINGFIELD, MO

The results of the fiscal year 1997 national competition were announced on December 22, 1997. Subsequent to the announcements, several letters were received expressing support for The Kitchen, Inc., located in Springfield, Missouri, and voicing concern over the decision not to renew funding for that organization. Two of the letters were from Senator Bond and Senator Ashcroft. A copy of the response to the Senators' letters is attached. A summary of the process that resulted in The Kitchen, Inc. not being funded follows.

The City of Springfield, Missouri submitted an "associated" application in the 1997 competition of which The Kitchen, Inc. project was a part along with Ozark Area Community Action Corporation (CAC). The project submitted by the Ozark Area CAC was given the first priority by the Springfield, Missouri Continuum of Care. The Kitchen, Inc. was identified as the second priority project in the same application. The requested amounts were $74,394 and $1,556,366, respectively.

Both projects were assigned 35 points out of a maximum possible 60 points on the Continuum of Care rating element. The project submitted by the Ozark Area CAC received 40 points on the "need" rating element out of 40 possible points. However, The Kitchen, Inc. received only 20 need points for this factor.

"Need" points were awarded based upon a applicant's relative need for homeless assistance compared to the extent of need nationwide. Need is calculated from generally available data on poverty, housing overcrowding, population, age of housing and growth lag. In the competition, those priority projects whose requested amounts

fell fully within the applicant's Continuum of Care pro rata need amount (or "first tier"), which in the case of Springfield totaled $520,597, or those where more than one-half the requested amount fell within this "first tier" received the full 40 points. Those projects where more than one-half of the requested amount fell outside of the "first tier" were assigned no more than 20 points. The Kitchen, Inc., fell outside of the "first tier". Consequently it received only 20 points under "need".

The 20 "need" points were added to the 35 points received for the Continuum of Care rating element, bringing The Kitchen Inc.'s total score to 55, which was below the 73 points necessary for funding.

LETTER FROM HAL C. DECELL, III

Hon. CHRISTOPHER S. BOND,
Office of Constituent Services,
Jefferson City, MO.

DEAR SENATOR BOND: Thank you for your letter of January 23, 1998, on behalf of your constituent, The Kitchen, Inc., Springfield, Missouri which applied for supportive services funding under HUD's 1997 Continuum of Care homeless assistance competition.

The Kitchen, Inc., project was a part of an associated application with Ozark Area Community Action Corporation. The project submitted by the Ozark Area Community Action Corporation was given the first priority by the Springfield, Missouri Continuum of Care. The Kitchen, Inc. was identified as the second priority project in the same application. The requested amounts were $74,394 and $1,556,366, respectively.

Both projects were assigned 30 points out of a maximum possible 60 points on the Continuum of Care rating element. Because of the order in which the two projects were prioritized, the project submitted by the Ozark Area Community Action Corporation received 40 points on the "need" rating element out of a 40 possible points. However, The Kitchen, Inc., received only 20 need points on this factor. Projects were funded based on the order of their ranking. While the Ozark Area Community Action Corporation project received a total score high enough to warrant selection, The Kitchen, Inc., did not score high enough to receive funding in the national competition.

Thank you for your interest in the Department's programs. Please let us know if we can be of assistance in the future.

Sincerely,

HAL C. DECELL, III,
Assistant Secretary.

Senator BOND. Well, there is a question about whether the local officials in this instance have told us that they supported this. We will work with you to find out where that decision was made. Obviously, we are hearing two different stories, which is the reason we have hearings.

Secretary CUOMO. I understand, Mr. Chairman. My information—and I will work on it on my side—is it was not their top priority.

Senator BOND. All right.

AFFORDABLE HOUSING

Let me jump to a totally new subject. We have talked a good deal about the real problems that we have in the cities, but I have to tell you that as I have traveled through rural Missouri, I find a crying need for affordable housing, and in many, many rural areas, the people who are moving from welfare to work cannot find the jobs. We have a strong economy in the rural areas, but people who are starting to work and coming in at above minimum wage, but still a very modest wage, cannot afford housing.

What are you doing in rural areas? What can we do to meet these needs as well?

Secretary CUOMO. We have, Mr. Chairman, as you know, actually several rural specific programs from last year's bill where we are now actually running programs in rural parts of the country directly from HUD. But the two main programs, CDBG and HOME, operate in rural America also. We tend to think of them as urban programs, but under CDBG, community development block grant, in which a large portion of that program goes to housing rehabilitation, the State administers in rural areas. And we are doing housing work through CDBG in rural areas. The HOME program also is used extensively in rural areas.

We have a new software technology at HUD where we literally have mapped every HUD project in the Nation, and I will send the chairman the map for your State just to give you an idea of what is happening in the rural areas, much more than people think.

Senator BOND. Well, and we know but we also hear that there is a much greater need. I agree with you that HOME and CDBG are available. They are available in the cities. They are available in the rural areas. We focused on the HUD programs directly in the cities and the things that you are doing above and beyond that minimum, and I need to know what it is that we could do specifically in the rural areas. We need to work with you.

I will impose so I can finish up this round of questioning and then turn it over to Senator Mikulski for as long as she wishes.

ECONOMIC DEVELOPMENT INITIATIVE

The economic development initiative, community empowerment fund. It is stated that the $400 million grant funds will leverage an estimated $2 billion in private sector loans. How did you determine that that $400 million in grants would result in $2 billion in loan guarantee commitments, and how can you ensure that the funds would not be used simply to lure jobs from one area of the country to another area, something that is of great concern?

Secretary CUOMO. This is not going to be a case of first impression, Mr. Chairman. We now run the EDI program, economic development initiative, which the chairman knows well, and the 108 loan program, which the chairman also knows well, which are proven programs with proven track records. They are producing jobs. They are working well. There is a tremendous demand by cities all across this Nation and rural areas for this kind of tool, and we are banking on the experience. These are not estimates. We have experience from past EDI loans and 108 loans that we have been doing now for years, literally 4 or 5 years.

Senator BOND. Senator Mikulski.

Senator MIKULSKI. Thank you, Mr. Chairman.

HOUSING FOR THE ELDERLY

Secretary Cuomo, I want to now go to my questions on elderly housing. Of course, I think one of the exciting things about housing for the elderly was that it was partnerships often with nonprofits and faith-based groups.

By the way, I would like to thank you for your effort to reach out to faith-based groups and for the establishment on the—I believe you have a Center for Community and Interfaith Partnerships. We have already connected some of our faith-based groups

to that center, and I believe it is working because they do not have golden Rolodexes to know how to apply for Federal funds and so on.

But let us go to the housing for the elderly. In President Clinton's budget, there was a cut of $498 million in housing for the elderly, and this gave us a tremendous concern. Last year Senator Bond really took the leadership and I worked very closely with him to restore a $300 million and something reduction in housing for the elderly. I think you would agree that this is the one program that everybody likes.

So, my question is twofold. One, do you really want us to cut this, or was it just a way to balance the budget, assuming Bond and Mikulski would rescue it? And if so, in our allocation where would you suggest we get it? Because it will come out of other HUD programs.

Secretary CUOMO. Senator, three quick elements in response.

No. 1, on the not-for-profit center, I could not agree with you more. That center is working well. It is the first institutional input for not-for-profits at HUD. Historically, HUD does business with public housing authorities and State and local governments, but not-for-profits do not really have a home at HUD if you will. Not-for-profits have gotten so much more sophisticated over the past decade where they are really a proven service delivery mechanism now. The Senator knows you have Enterprise, et cetera in your State. So, the center is working very well. Father Joe Hacala who ran CHD has come in and is doing it for us, and we are very excited about it.

On the senior citizen housing, Senator, first as an approach, listening to what the chairman said in his opening comments, we currently run the 202 and 811 program in Washington where we make the decisions on what programs should win, in what city and where they should be cited literally because when they give us an application, it has an address. We do it without consulting the local government, without asking the Governor, without asking the Senator. We make the decision.

If we believe in devolution and getting resources to the Governors, why not take the 202/811 funding, put it in the HOME program, and say here you go, Governor. Here is the block grant for affordable housing. You decide between seniors and disabled and public housing needs, et cetera, and the resources are now within your own control. If you want to come up with a comprehensive——

Senator MIKULSKI. You are recommending we take the housing for the elderly and convert it into a block grant out of HOME?

Secretary CUOMO. We say roll the 202 into HOME with a fire wall which would wall off the 202 so the seniors would have that guarantee of a certain amount within the HOME block grant.

Senator MIKULSKI. Well, then why have any—I do not want to get into an argument here, but why then have any programs at HUD? Why not just convert everything into a block grant?

Secretary CUOMO. And that is the tension I think, Senator, between——

Senator MIKULSKI. It is more than a tension. If you go down this road, once you get on this road, you will pick up a lot of other traffic.

Secretary CUOMO. I understand that point. The truth is somewhere in the middle. With the block grants, you would lose control, but if you had a block grant where you said, but *x* must go to seniors——

Senator MIKULSKI. Even if you block grant it or whatever, it is still a $498 million shortfall.

Secretary CUOMO. Senator, the GAO offers testimony today where they say there is $439 million in the HUD budget that is in addition to the savings that HUD has previously found within the budget. This committee asked GAO to go in and take a look at the books and GAO found $439 million. We have done a scrub of the books. We concur with GAO and we concur on the $439 million. The $439 million would bring this committee a long way back to restoring that whole 202/811 program.

Senator MIKULSKI. So, you are saying look to the GAO report, which your new Chief Financial Officer has concurred with, that this be the source of the $400?

Secretary CUOMO. I am saying, Senator, yes, the GAO has found $439 million. We would concur that there is $439 million there. We would be pleased to work with the committee on any other budget nuances that we would have to come up with to make it work.

NEW AND INNOVATED APPROACHES TO ELDERLY HOUSING

Senator MIKULSKI. Well, let me then go to a report that we had in fiscal year 1998. We asked for a report on what HUD could do to encourage new and innovative approaches to elderly housing that may reduce costs, increase efficiency, which really means the delivery of services. Could you tell me the status of that report and what leadership you are providing for new thinking and new approaches on housing for the elderly?

Secretary CUOMO. We are doing a lot of work in the Department, Senator, on senior citizen housing, assisted living housing, working with the not-for-profits on design standards, et cetera. The specific report—I do not know where the report is in development. I could either find out now—I am sure we have the appropriate person here, given the number of HUD officials—or I could get it at a later date and get it back to you.

Senator MIKULSKI. Well, what about the ideas? Is there really a driving force with the population aging, with this—-AARP tells me that for every one section 8 unit, there are eight people on a waiting list. The aging in place of both the population, the aging in place in senior housing, the whole issue of how services are provided.

Secretary CUOMO. Senator, I think we have probably one of the most sophisticated service delivery mechanisms and advanced design and operation concepts in the area of senior citizen housing. There is a great depth to the infrastructure of delivery there. The Catholic Charities, the B'nai B'riths of the world have been doing this for years. The 202 program has been in existence, and we have learned a ton. Capturing it, disseminating it, proliferating it is now the challenge that the Department is working on.

Again, I have to find out where the report is, but it is an area that we are very concerned with getting the word out.

Senator MIKULSKI. Mr. Chairman, I could pursue this line of questioning, but let me just say this, Mr. Secretary. We just had a conversation where we could find the $400 million plus. That is very heartening.

Second, you are saying you want, though, this to be block-granted into HOME leaving devolution and all these nice new words that are out there with decentralized decisionmaking. To be decentralized to whom? OK, that is No. 1.

HOME BLOCK GRANT PLUS VOUCHERS

And then No. 2, if this depth of knowledge within the nonprofit and often faith-based groups, then what are their ideas in terms of the new approaches we need to do rather than just building housing, providing the subsidy, and so on? Just exactly what you said, assisted living, continuing care. You are going to devolve that.

Secretary CUOMO. When we put our budget together, we had to make some tough choices, we wanted to do the community empowerment fund, the economic development. We wanted to do the 100,000 new vouchers because it is critical that we get back to building housing in this Nation. We then had the dilemma of how to provide the senior citizen housing. Our solution was the HOME block grant plus vouchers. We also have vouchers for senior citizens there.

The Senator poses a different scenario saying if you had the additional $439 million, how would you run the program? The Senator's point is that the 202 program and the 811 program, work very well. If you had the funding, why would you not retain the 202/811 programs, keep that infrastructure going and do more hard construction rather than vouchers. That is a very persuasive case.

That is not the choice that we had when we put the budget together. Ours was a conundrum of lack of resources. If we had the additional funding, we may very well have made a different choice, Senator.

Senator MIKULSKI. Let me just say this. I do not go for the voucher idea for the elderly. Old people need safety, security, and community. They do not want to be out there with a voucher shopping for housing. They want to be in an environment that is safe, secure, reliable, provides a sense of community and some sense of continuity of services. So, they do not want to be out there with a voucher foraging for someone.

Then there are all kinds of other issues from rails in the bathrooms, et cetera. So, I think the pursuit of vouchers for the elderly is not an idea that I will support. So, just know that.

Second, we really do need energy and focus on how we are going to meet the needs of the elderly and not just view this as a set of budget decisions. I know of your deep commitment to this area and I am going to count on you to do that.

OLD INNER BELTWAY COMMUNITIES

Now, Mr. Chairman, I have one other issue about aging and that is communities that are aging in place, which is the old inner beltway communities, meaning the first generation out of the city into the suburbs. These communities are now 50 years old themselves. We see them in Maryland. We see them I am sure in Missouri and

outside St. Louis. They might be within the city limits. They might be just outside the city limits. We have one in Prince Georges County, Silver Spring in Maryland.

Could you tell me what you are thinking about in that area? Because these are neighborhoods that were once really kind of new housing and, by the way, often were the first integrated housing because of the GI Bill of Rights and VA providing loans in my own State often to the first black home ownership neighborhoods. They are now very stressed and we want to deal with them while they are stressful before they go into siege.

HOUSING FOR THE ELDERLY

Secretary CUOMO. Senator, two points.

Just to conclude on the senior citizen housing, if I might backtrack for half a moment. Our decision was to use vouchers and the HOME program in a situation where we did not have enough resources to do everything we wanted to do. The situation the Senator poses is different. If we had an additional $400 million, how would we provide senior citizen housing? The answer may very well have been 202/811 as opposed to vouchers and the HOME program. So, we had a different reality that we were dealing with, and that is why we came to the conclusion we did.

But I would be the first to speak about the strength of the 202 program and the infrastructure and the need for construction, especially for senior citizens. Unfortunately, we did not have the resources to do everything we needed to do at that time. Today, it sounds like we do, and that is very encouraging that we could do the senior housing and the vouchers——

Senator MIKULSKI. You are now repeating yourself.

Secretary CUOMO. OK. I just wanted to make sure I made myself clear the first time, Senator. I am glad I did.

OLD INNER BELTWAY COMMUNITIES

Second of all, on the communities aging in place, we want to offer them basically two aspects. What I hear from the county executives and the mayors is they want more home ownership. If they have public housing that is troubled, they want HOPE VI to redo that; or they want more home ownership, even more than rental housing, because home ownership gets them taxpayers, gets them communities, et cetera. Help me with home ownership. That is home ownership zones. That is FHA loan limits. And help me get and keep businesses and jobs because I am losing them to the suburbs. That would be our economic development grant and empowerment zones. Those two main pieces on the menu: the housing/home ownership piece and the jobs/economic development piece.

Senator MIKULSKI. Well, I am heartened by that. Mr. Chairman, I am done and will turn this over to you. I know we have other business.

If I could share with the chairman and you, Mr. Cuomo. We have a community called Suitland. It is a wonderful community. It is a fight-back community from drugs that invaded. A dynamic county executive. But guess what we have in Suitland? We have the Federal Government contributing to the deterioration of the community.

One, we have a Federal complex that employs 9,000 people. It should be a cornucopia of opportunity for economic development. They have a barbed wire fence around it. They have a barbed wire fence around the Federal facility and we do not have one around the Federal prison in Allegany County.

So, when I threatened to take down the barbed wire, I got GSA's attention, but GSA and the way they run the Suitland complex contributes. If you see it, it is a dump. It is a Federal dump. The Federal employees have every right to complain. We have a Berlin Wall where they cannot do shopping in the community and then, because it is an older community, we have a whole set of housing and businesses, that actually HUD is involved with, that are deteriorating.

I would like to just one day either you and I and the county executive, even if we did a windshield tour because I think Suitland is a cameo of two things, one, where the Federal Government has contributed to the deterioration of the community, but No. 2, where the Federal Government could be an impetus really for empowerment without a whole new lot of stuff. I would like you to look at this and look at some of the other communities because I do not want stressed communities to go to siege communities. And I thank you for that.

Secretary CUOMO. It would be my pleasure, Senator. I would love to take you up on the invitation and get the county executive and we could go out and take a look.

Senator MIKULSKI. Great.

Senator BOND. Thank you, Senator Mikulski. If possible, I would like to join you on that windshield tour because that is precisely the kind of thing that we do not want to see Federal policies doing. That is a real concern to the committee, and I assure you we will work with you on that.

I want to make it clear to everyone here that it is my intention—and I might say our intention—to fund fully the section 202 and the section 811 programs. We believe they are vitally important. I have visited too many senior citizen developments, and when you tell these people on walkers, in wheelchairs, with canes we are going to send them out shopping with a voucher, they regard that with a minimum amount of high enthusiasm. This is not something they want to hear and Senator Mikulski is correct.

Well, I very much appreciate it. I have, as you might guess, a significant number of additional questions, but the morning is late. Thank you, Mr. Secretary. We will submit those for the record and continue to work with you. Thank you for your testimony.

Now I would like to call on the Under Secretary of the Treasury for Domestic Finance, Mr. John Hawke, to be joined by Director Ellen Lazar of the Community Development Financial Institutions Fund.

Secretary CUOMO. Thank you. Thank you very much, Mr. Chairman.

Senator BOND. Thank you, Mr. Secretary.

DEPARTMENT OF THE TREASURY

COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND

STATEMENT OF JOHN D. HAWKS, UNDER SECRETARY FOR DOMESTIC FINANCE

ACCOMPANIED BY ELLEN W. LAZAR, DIRECTOR

OPENING REMARKS

Senator BOND. The committee will come to order. If you are still moving, do so quietly please. If there is anybody left, we would invite you to come up to the front. It looks like we are going to have to pass the collection plate from the rear. [Laughter.]

We still have some and we are delighted to have you here. We have Mr. John Hawke, and I call on my colleague for an introduction of Ms. Lazar.

Senator MIKULSKI. Mr. Chairman, I would like to just introduce to you Ms. Lazar who really comes with a great background in nonprofit management and understanding that it is not only housing that builds a community, it is a whole set of really working with those who make the community worthwhile.

Her training specifically even at the Enterprise Foundation which took the best practices of the private sector with the mission-driven of the nonprofit sector are there. So, we look forward to hearing her testimony, and I am sure that with CDFI they will have a new leadership and, therefore, I think a more reliable outcome.

Senator BOND. Mr. Hawke, you can proceed please.

STATEMENT OF JOHN D. HAWKE

Mr. HAWKE. Thank you, Mr. Chairman, Senator Mikulski. I would like to submit my prepared statement for the record and just make a very few——

Senator BOND. The full statements will be made a part of the record.

Mr. HAWKE. Just a couple of brief opening remarks before I turn it over to Director Lazar.

CDFI IS A HIGH PRIORITY PROGRAM

First, CDFI is a high priority program for the administration to which the President and the Secretary of the Treasury are both strongly committed. CDFI's are helping to create jobs and revitalize neighborhoods across the country.

Second, with Director Lazar and the people she has brought in, we have in place a strong management team. They have our full confidence and support.

FUND IN REVIEW

Third, we frankly recognize that prior to this new team coming on board, the Fund had some growing pains. The congressional oversight process helped to focus our attention on problem areas and we think that process has worked well.

A measure of our success in this regard is that the Fund's financial statements for its first 3 fiscal years recently received a clean, unqualified audit from Peat Marwick. Both our new management and the outside auditors, identified process weaknesses that existed as of the end of the last fiscal year, but all of these have either been addressed and cured or are in the process of being cured. The Fund is confident that its next audit will show no material weaknesses in internal processes.

Finally, I am afraid that there are some misperceptions about certain aspects of the Fund that have gained currency and I urge the committee to look at the facts rather than unsupported allegations. In particular, I cannot state too emphatically that from the outset of this program, we have gone to great lengths to assure that the Fund's decisionmaking processes are fair, objective, and untainted by outside influence. We have insisted that funding decisions be made only by the Fund, and I have the highest degree of confidence that the Fund's decisions have been made solely on the merits.

Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF JOHN D. HAWKE, JR.

Mr. Chairman, members of the Subcommittee, it is a pleasure to speak with you today about our fiscal year 1999 budget request for the Community Development Financial Institutions Fund. I am pleased to be joined today by Ellen Lazar, the new Director of the CDFI Fund.

The President's budget for fiscal year 1999 includes $125 million for the CDFI Fund. This funding is a critical component of our strategy to promote private sector-led economic growth in economically distressed areas.

As Secretary Rubin has often said, this is an issue of vital importance to all of us—no matter where we live or what our incomes may be. It is a fundamental national economic issue, because our country will never reach its full economic potential, unless we succeed in bringing all Americans into the economic mainstream.

The Administration's strategy has three components: investing in people, through education and training; strengthening public safety; and encouraging business investment with improved access to capital to create jobs and foster growth. At Treasury, we are energetically involved in this effort by bringing our broad expertise in financial institutions and tax policy to bear on these issues, from tax incentives for investment to strengthened regulations under the Community Reinvestment Act. One of the most important components of our strategy is the CDFI Fund.

The CDFI Fund's aim is to expand access to credit and financial services in lower income urban, rural, and Native American communities, areas where one of the biggest obstacles to economic growth is a lack of access to private sector capital. With CDFI, I believe we have a new, more market-driven approach to community development. CDFI's around the country, with the Fund's support, are helping to open up new markets, demonstrate the viability of lending to low income communities, partner with mainstream financial institutions in innovative ways, and mentor and grow small businesses. By filling market niches and drawing mainstream financial institutions into low income communities through partnerships, CDFI's help to make our financial system work for more Americans. In many respects, we are witnessing a quiet revolution in the approach taken to community development, with CDFI's helping to prime the pump.

The CDFI Fund has two main programs: the CDFI program, which is designed to assist specialized community development financial institutions, and the Bank Enterprise Award program, which rewards financial institutions that are increasing

their lending and providing more financial services in distressed communities. The two programs are complementary, and both pursue strategies designed to meet unique local needs, whether it is helping families to buy a house, or a budding entrepreneur to start a business, or a community to provide the child care facilities working families need.

The program is still young, but we are already seeing signs of success. Thus far, the Fund has awarded $75 million to nearly 80 CDFI's around the country. These dollars are required to be matched at least one-to-one with non-Federal dollars by CDFI award recipients. Moreover, the Fund's investments become part of the capital base of the CDFI's, further leveraging federal dollars. Finally, the federal dollars are leveraged again, as the CDFI's, often with other financial participants, make investments or loans for individual projects.

These investments are making a difference. For example, Bethex Federal Credit Union in the South Bronx, a small financial institution originally founded in 1970 by former welfare recipients, received a $100,000 grant from the CDFI Fund to expand its financial services and increase its business lending. Over the past 18 months, Bethex's membership has grown from 1,270 to 3,000 and its assets have increased from $1.6 million to $3 million. In addition, Bethex has launched "School Banking," to encourage savings among students.

Let me describe the impact that the Fund had on one individual. Andrew Fuentes of San Antonio was too ill to return to his construction job. At his wife's suggestion, he made a table and set of chairs for their empty kitchen out of some old wood. Soon afterward, Mr. Fuentes was selling his rustic furniture to friends, and he began making furniture full time. Fuentes approached several banks for a loan to expand his business, but was turned down because of his credit history. He eventually applied for and obtained a $3,000 loan from ACCION Texas, a local 1996 CDFI awardee. This loan has already allowed him to expand his inventory and double his sales.

With respect to the BEA program, more banks and thrifts than ever before are reaching out to their communities and are investing in CDFI's. This year, the Fund received 104 applications, a 40 percent increase over last year's applications. The Fund's $30 million in BEA investments have already leveraged $273 million in bank activities. Moreover, many of the awardees are choosing to reinvest the awards they receive for past performance back into community development projects. In this way, the CDFI Fund is getting increased private sector leverage for federal dollars.

Central Bank of Kansas City, Missouri, for example, was awarded $99,869 for increasing its loans and services in distressed neighborhoods by more than $8.3 million during the first half of 1996. In addition to loans for housing and other purposes, the bank made a significant loan to help a major manufacturer and employer remain in the community.

As with any new organization, there have been some growing pains. Let me emphasize that congressional oversight has been useful in helping the Fund strengthen its internal controls and procedures. I believe that we have dealt with those problems effectively, and we will continue to improve procedures as this program grows and matures. In fact, the Fund was recently given an unqualified audit for its activities since inception. The audit also confirmed the findings of the Fund's management that material weaknesses had existed in the past, and that the Fund had corrected or was in the process of correcting each of those weaknesses. We are moving this program forward with the new leadership of Ellen Lazar, who I believe brings to the job the dedication, the many years of experience in community development, and the energy needed to implement the CDFI Fund's important work in the years ahead.

Mr. Chairman, the Fund's vision makes sense, it has strengthened its internal controls, and the Fund's investments are beginning to make a difference in people's lives. Since its inception, CDFI has enjoyed bipartisan support. I look forward to working with all of you to secure the President's request for $125 million in funding for fiscal year 1999, so that CDFI can help more local communities across the country rebuild neighborhoods, create jobs, and restore hope. CDFI is a solid investment in the long-term economic well being of not only those communities, but all of us. Thank you very much.

STATEMENT OF ELLEN W. LAZAR

Senator BOND. Ms. Lazar.

Ms. LAZAR. Chairman Bond, Ranking Member Mikulski, it is a distinct pleasure to be before you today representing the Community Development Financial Institutions Fund. I would like to

begin by thanking the committee for your continued support of the fund. The funding you provide is making a difference in the lives of people that are often left out of the economic mainstream.

The Department's and my top priorities will continue to be strengthening management and internal procedures of the Fund and to expand the Fund's impact in communities. I wish to assure you that I and the Department are committed to developing and implementing the necessary improvements to the Fund's financial and program management, reporting systems, internal controls, operating procedures, and awards monitoring.

CDFI MAKING SIGNIFICANT STRIDES

We have already made significant strides. In our first financial statement audit covering fiscal years 1995, 1996, and 1997, we received a clean opinion from KPMG Peat Marwick. As we expected, the audit also confirmed material weaknesses that we had previously identified. Our corrective action plans will eliminate these conditions during fiscal year 1998.

The Fund is taking critical steps to strengthen and build its management structure and staff. Furthermore, we will reduce our reliance on outside contractors and enhance our in-house capacity.

During the Fund's 1996 and 1997 round, the Fund awarded a total of $75.5 million in assistance to 75 CDFI's serving urban, rural, and Native American communities.

The CDFI program requires that all financial assistance be matched on at least a one-to-one basis from non-Federal sources.

Collectively, 1996 and 1997 CDFI program awardees are located in 30 States and the District of Columbia. These organizations finance affordable housing, small businesses, micro-enterprises, and community facilities.

STIMULATING PRIVATE MARKETS

The Bank Enterprise Award Program provides incentives for banks and thrifts to invest in CDFI's and to increase their lending, investment, and services to distressed communities. In 1996 and 1997, the CDFI fund made 92 awards totaling $30 million under the BEA Program. BEA awardees in turn provided $130 million in financial and technical assistance to CDFI's and invested $140 million in communities. The program has served awardees in 24 States and the District of Columbia.

The Fund requires all CDFI awardees to enter into performance agreements with measurable goals. In the BEA Program, the Fund requires awardees to fully complete their projected activities before their awards will be disbursed.

The Fund also promotes best practices throughout the industry. The Fund's presidential awards for excellence in micro-enterprise development is a nonmonetary program that recognizes organizations that have demonstrated excellence in promoting entrepreneurship.

We are beginning to see the impact that the Fund can make in underserved communities and among people that are often left out of the economic mainstream. This year the Fund will be launching an analysis of how the Fund's investments have created benefits for distressed communities.

In fiscal year 1998, the Fund was appropriated $80 million. The Fund will use these funds on the core component of the CDFI program, the intermediary component of the CDFI Fund, the BEA Program, a new technical assistance program, and a new training program. The Fund expects to use $5.5 million for its operation.

FISCAL YEAR 1999 BUDGET REQUEST

Our request for fiscal year 1999 is $125 million. This funding level will allow the Fund to increase the number of CDFI's receiving financial and technical assistance and to expand our other activities.

Mr. Chairman, members of the committee, thank you for giving me this opportunity to provide an overview of the Fund's mission, its accomplishments, and plans for the future. As a new initiative, we are now beginning to see the first glimmer of what the Fund can accomplish by assisting communities to realize their potential. I look forward to working with you over the course of this year's appropriations process.

[The statement follows:]

PREPARED STATEMENT OF ELLEN W. LAZAR

Chairman Bond, Senator Mikulski and distinguished members of the Subcommittee, it is a distinct pleasure to be before you today and represent the Community Development Financial Institutions Fund. I am Ellen Lazar and I have been the Director of the Fund for two months. Before I begin my testimony, I would like to introduce you to other members of the Fund who are with me: Paul Gentille, Deputy Director for Management/Chief Financial Officer of the Fund and Maurice Jones, Deputy Director for Policy and Programs at the Fund.

I would like to begin by thanking Chairman Bond, Ranking Member Mikulski and other members of the Committee for your continued support for the Community Development Financial Institutions Fund. For your efforts, the Treasury Department and I are deeply grateful. The funding you provide is making a difference in the lives of people that are often left out of the economic mainstream.

The CDFI Fund, which was authorized by the Community Development and Regulatory Improvement Act of 1994, was created to address the critical problems of urban, rural and Native American communities that often lack adequate access to capital. Access to capital is an essential ingredient for creating and retaining jobs, developing affordable housing, revitalizing and maintaining neighborhoods, building local economies, and enabling people to realize their hopes and dreams. There are significant capital gaps in distressed communities, and this market niche is not often recognized or well understood. This makes it difficult for conventional sources of capital to effectively serve low income people.

Despite the great strides that have been made as a result of a strengthened Community Reinvestment Act in promoting access to credit in underserved neighborhoods, market imperfections still keep capital out of these communities. Today, low income communities are faced with many challenges—such as moving families from welfare to work, providing basic financial literacy skills, and training unskilled workers to become job ready.

For example, there is the single mother of three in Charlotte, North Carolina who recently moved to escape an abusive spouse but found it impossible to service the debts caused by one of her children's past medical expenses on her modest salary as a teacher's aide. The School Workers Federal Credit Union was able to arrange a debt consolidation loan and help her not only better manage her debts but also begin a savings program. She has now been able to make a $1,500 down payment on a house. Thanks to the $150,000 grant from the CDFI Fund it received last year, this Credit Union is now poised to help many others work their way out of debt and into asset building for their future.

The CDFI Fund represents a new direction in community development. The Fund's programs leverage limited public dollars to build the capacity of private sector institutions to finance community development needs, and the programs help forge partnerships between communities and mainstream financial institutions. The Fund's efforts are designed to turn dysfunctional markets into well functioning local

economies. The President and Congress working in partnership created the Fund in 1994. The Fund's vision, and its approach represent a true innovation as a Federal initiative. We are now beginning to see the first glimmer of what the Fund can accomplish by assisting communities to realize their potential.

BUILDING STRONG AND EFFECTIVE MANAGEMENT SYSTEMS

The Department's and my top priorities will continue to be strengthening management and internal systems and procedures of the Fund. Understanding the importance of a sound management and program infrastructure, I wish to assure you that I and the Department are committed to developing and implementing the necessary improvements to the Fund's financial and program management, reporting systems, internal controls, operating procedures, and awards monitoring. The Fund's new leadership is committed to improving financial management and awards monitoring by ensuring strong program and financial structure, effective internal controls, and increasing the use of information technology.

To date, we have already made significant strides toward achieving these objectives. I am very pleased to report to the Subcommittee that in the Fund's first financial audit for fiscal years 1995 through 1997, it received an unqualified opinion which means that our auditors opined that our financial statements fairly and accurately present the financial position of the Fund. As expected, the audit confirmed our own findings that the Fund had material weaknesses in prior fiscal years. Using the Fund's FMFIA and audit processes and corrective action plans, we will correct all material weaknesses and findings during fiscal year 1998. As noted in our Annual Report, the Fund is taking critical steps to strengthen and build its management structure and staff. In the first quarter of 1998, a Deputy Director for Management/Chief Financial Officer, with significant financial management experience in government, was appointed. The Fund has also moved swiftly to fill other management positions that are critical for ensuring proper internal controls and accountability including an awards manager, an accountant, a Deputy Director for Policy and Programs and program managers for each program.

A priority for the Fund during fiscal year 1998 and fiscal year 1999 will be to recruit, develop and retain high caliber staff. The Fund requires a highly trained staff due to the complexities and diversity of the community development finance industry. We will reduce our reliance on outside contractors and enhance our in-house capacity and expertise to meet the needs of the community development field. Special emphasis is being placed on the recruitment and hiring of additional Fund staff and the dramatic reduction of the utilization of outside contractors.

The Fund is committed to managing for results and I am planning to lead our management in a rigorous review of the Fund's current 5 year strategic plan, goals and performance measures within the next couple of months. If appropriate, I will revise our 5 year strategic plan and goals. I intend to show an important linkage between the Fund's goals and measures and those goals and measures we require from our awardees. Our strategic plan will be accomplished with appropriate Congressional consultation, as required by GPRA, and I look forward to working with the Committee on this important planning process.

PROGRAM OVERVIEW AND PRINCIPLES

The Fund seeks to promote economic revitalization and community development through investment in and assistance to community development financial institutions (CDFI's) and through encouraging insured depository institutions to invest in CDFI's and increase lending, investment and services within distressed communities. The Fund's programs are built on several key principles. First, stimulation of private markets is critical for rebuilding economically distressed areas. Second, building the capacity of community based institutions is critical for providing localities with the tools necessary to serve many underserved communities. And third, an initiative that promotes private sector strategies to achieve public policy goals must be based on performance and maximizing impact. The Fund has five programs that collectively address these principles: Its two main programs—the Community Development Financial Institutions (CDFI) Program and the Bank Enterprise Award (BEA) Program; and its other initiatives, the Training Program, Technical Assistance Program, and the Presidential Awards for Excellence in Microenterprise Development.

Stimulating Private Markets

The CDFI Program seeks to stimulate markets and spark economic activity by funding organizations that emphasize private sector market discipline. The Fund makes investments in, and provides technical assistance to, CDFI's. CDFI's are pri-

vate for-profit and nonprofit financial institutions with community development as their primary mission. CDFI's include community development banks, community development credit unions, non-profit loan funds, micro-enterprise loan funds, and community development venture capital funds.

During its 1996 and 1997 rounds, the Fund awarded a total of $75.5 million in assistance to nearly 75 CDFI's serving urban, rural and Native American communities. These investments will leverage new capital and generate new community development activity over the next several years.

The CDFI Program also stimulates private investment by requiring that all financial assistance be matched on at least a one-to-one basis from sources other than the Federal government. As a result, the vast majority of all matching funds are raised from private sector sources. For example, during the 1996 funding round, nearly three-quarters of our awardees derived all of their matching funds from private sources including banks, corporations, foundations and individuals.

Collectively, 1996 and 1997 CDFI Program awardees are located in 30 states and the District of Columbia. Half of the awardees serve predominantly urban areas, one-third serve predominantly rural areas, and the balance serve a combination of the two. These organizations provide a wide range of lending products, investments and services within their communities. They finance affordable housing projects, small businesses, microenterprises, and community facilities. Awardees are selected based on factors including potential community development impact, financial strength, organizational capacity, and quality of their business plan.

The Fund's 1996 investment in Northeast Ventures of Duluth, Minnesota illustrates how the Fund sparks economic activity. Larry Van Iseghem is a chemist with an environmental mission. Larry's company, located in a rural and declining region of eastern Minnesota, developed and brought to market an environmentally benign, water based coating for heating and cooling equipment which adds energy efficiency to furnaces and air conditioners while preventing corrosion. An early investment by Northeast Ventures allowed Mr. Iseghem to start his company and to expand and move into development of new products. "Some potential investors were wary of my ideas, because they weren't sure environmental benefits and economic viability could go together," Larry explains, "Northeast Ventures Corporation didn't consider this a liability, but a plus. Environmental responsibility is one of their criteria."

In addition to CDFI's, traditional financial institutions play a key role in community development lending and investing. The Bank Enterprise Award (BEA) Program stimulates private markets by providing incentives for banks and thrifts to invest in CDFI's and to increase their community development lending, investment and service activities within distressed communities. In 1996 and 1997, the CDFI Fund made 92 awards totaling $30 million under the BEA Program. During these rounds, BEA awardees collectively provided $130 million in financial and technical assistance to CDFI's and generated $140 million in loans, investments and services within high poverty neighborhoods. The Program has served awardees in 24 states and the District of Columbia. The Program has awarded funds to banks and thrifts as small as $21 million in total assets to as large as $320 billion in total assets. Program participants represent a broad spectrum of the industry including national banks, state chartered commercial banks, Federal savings banks and thrifts, mutual savings banks and credit card banks.

The Bank of America Community Development Bank (B of A) was awarded $1.6 million in the 1996 funding round for increasing its multifamily housing, commercial real estate and business loans in distressed communities across California. The Bank made nearly $25 million in loans in targeted neighborhoods meeting the BEA Program's distress criteria, including $9.5 million in commercial real estate loans, $13.2 million in multifamily loans, and $2.2 million in business loans. The Bank projects that these loans will generate more than 185 units of affordable housing and 300 jobs. B of A's increased multifamily lending activity has helped provide a vital source of affordable housing for low-income families in targeted neighborhoods in San Francisco, Modesto, and Los Angeles, including the projects described below:

—a $2.6 million construction loan to support the acquisition and rehabilitation of a deteriorated residential hotel in San Francisco's Tenderloin neighborhood into 58 units of quality affordable housing for formerly homeless individuals; and

—a $6.8 million loan to support construction of a new 79-unit apartment building located in Downtown Los Angeles. The building serves households earning less than 60 percent of Los Angeles County's median income.

In addition to significantly increasing its lending activity in eligible distressed neighborhoods—activity that qualified it for its award—B of A, together with Bank of America, F.S.B., has invested its entire combined Bank Enterprise Award back into the community. $1.1 million of the award money has been used to established the Bank of America Leadership Academy, a nine-month program that provides

training for senior management of community development organizations. The B of A Leadership Academy is funded jointly by Bank of America Community Development Bank, Bank of America, F.S.B., and the Local Initiatives Support Corporation (a certified CDFI and a 1996 CDFI Program awardee); and is conducted by the Development Training Institute. The B of A Leadership Academy is funded for three nine-month programs. Each session trains 35 executive directors or senior staff of community-based development organizations that are at least five years old and have completed at least three projects.

An additional 20 percent of the combined awards will go to the Low Income Housing Fund, a certified CDFI and a 1996 CDFI Program awardee which provides loans for very low-income housing development across the country.

Capacity Building

The Fund builds the financial capacity of CDFI's by providing financial assistance in the form of equity investments, grants, loans or deposits to enhance the capital base—or the financial muscle—of these organizations to make loans, investments, provide technical assistance or otherwise address unmet community development needs. Unlike programs in which resources are provided for specific projects, under the CDFI Program the Fund invests in CDFI's as institutions in order to promote their long-term viability and ability to serve distressed communities.

Appalbanc, a multifaceted CDFI that serves 85 extremely distressed counties in West Virginia, Kentucky, Tennessee, and Virginia, has developed an effective strategy to promote housing development and homeownership. Since its inception, Appalbanc and its affiliates have financed the development or rehabilitation of more than 20,000 homes. The $1.33 million in assistance provided by the CDFI Fund will be used to expand Appalbanc's activities in this very needy region.

The Fund builds the organizational capacity of CDFI's through several mechanisms. First, as part of the CDFI Program funding rounds, the Fund conducts "debriefings" with each applicant that was turned down for funding. Through this debriefing, applicants are given valuable feedback about the strengths and weaknesses of their organizations as observed by those involved in reviewing their requests for funding. Many of these organizations have used the information from these debriefings to address their weaknesses, build on the strengths of their operations and improve performance.

Second, the Fund provided assistance to two national intermediaries in 1997 who will provide intensive financial and technical assistance to small, nascent and growing CDFI's. CDFI Intermediaries are organizations that focus their financing activities primarily on other CDFI's. By providing financial assistance to specialized intermediaries, the Fund strengthens its capacity to support the development and enhancement of the CDFI industry. Together, the two national intermediaries selected by the Fund in 1997 are expected to serve nearly 200 CDFI's over the next five years.

Finally, this year the Fund will launch two new initiatives to build the organizational capacity of CDFI's and other organizations engaged in community development finance activities. The first initiative is a $5 million technical assistance program that will provide grant monies to CDFI's for capacity building activities. The second initiative is a new training program that will enhance skill development among CDFI's and other members of the financial services industry that are engaged in community development finance activities. The Fund expects to provide up to $15 million for this program.

The Fund expects to publish a Notice of Funds Availability regarding the first round of the technical assistance program this month. Later in 1998, the Fund will launch the second prong of this strategy. It will select organizations to provide, on the Fund's behalf, training to CDFI's and other members of the financial services industry.

By building the capacity of CDFI's, the Fund helps these organizations to enhance the economic well being of people in their communities.

Promoting Performance and Impact

The Fund's investments are making a difference in communities. For example, one 1996 CDFI Program Awardee, Cascadia Revolving Fund, made a loan to Nancy Stratton of Port Haddock, WA to open a day care center in her home. Nancy knew that her previous credit problems and lack of business experience would prevent her from obtaining financing through traditional sources. Cascadia worked with Nancy to refine her business plan and make a loan to help her start a now successful business. A 1996 BEA Program Awardee, Central Bank of Kansas City, was awarded $99,869 for increasing its deposit-taking activities and consumer and commercial real estate, housing, and business loans in distressed neighborhoods. During the

first six months of 1996, this bank provided more than $8.3 million in loans and services. In addition to facilitating neighborhood redevelopment through its single- and multi-family housing activities, the bank made a significant loan to help a major manufacturer and employer remain in the community.

The Fund also promotes performance and impact by requiring all CDFI's selected to receive assistance to enter into an agreement to meet performance goals. These performance goals are tailored to each CDFI based on its Comprehensive Business Plan. Performance goals may be based on the amount of lending or investment activity projected, the number of people to receive technical assistance, or other measures of a CDFI's success in meeting its community development objectives. The performance levels for each CDFI are intended to be challenging and are based on the projections made in an Awardee's application for funding, the amount of assistance provided by the Fund, and the CDFI's financial and organizational capacity.

In the Fund's Bank Enterprise Award Program, the Fund encourages performance by requiring awardees to fully complete their projected activities before their awards will be disbursed. Thus, each Federal dollar disbursed has already made an impact within a local community before it is received by an Awardee.

The Fund also encourages performance within the CDFI industry by promoting best practices. For example, the Fund's Presidential Awards for Excellence in Microenterprise Development is a non-monetary program that recognizes and seeks to bring attention to organizations that have demonstrated excellence in promoting micro entrepreneurship. By recognizing outstanding microenterprise organizations, the Presidential Awards seek to promote sound lending practices and bring wider public attention to the important role and successes of microenterprise development especially in enhancing economic opportunities among women, low income people, and minorities who have historically lacked access to traditional sources of credit.

We are beginning to see the impact that the Fund can make in underserved communities and among people that are often left out of the economic mainstream. This year, the Fund will be launching an impact analysis project that will provide valuable information on how the Fund's investments have created benefits within communities. As part of demonstrating impact, the Fund will continue to expand its communication tools, including development of a web site and publication of regular newsletters designed to publicize information about community development finance industry trends and best practices, as well as the Fund's activities.

In fiscal year 1998, the Fund was appropriated $80 million. The Fund intends to use these funds on the Core Component of the CDFI Program, the Intermediary Component of the CDFI Program, the BEA Program, a new Technical Assistance Program and a new Training Program. The Fund expects to use $5.5 million for its operations.

The Fund has established key goals with respect to its program activities. Under the CDFI Program, the Fund will seek to increase the cumulative number of CDFI's receiving financial and technical assistance under the CDFI Program. For this purpose, the Fund has requested a budget increase in fiscal year 1999 to $125,000,000.

Increased funding will allow the Fund to increase the cumulative number of CDFI's receiving financial and technical assistance under the CDFI program. Financial assistance to CDFI's enhances private sector capacity, directly addresses community development financing needs in distressed communities, and strengthens CDFI's long term capacity to help restore healthy private market activity. The increased funding will also be used to expand the BEA Program, training program and technical assistance program and in part to help accelerate the development of a secondary market for community development loans.

SUMMARY

Mr. Chairman, members of the Committee, thank you for giving me this opportunity to provide an overview of the Fund's mission, its accomplishments and plans for the future. I also look forward to working with you over the course of this year's appropriations process. I would be very pleased to respond to any questions you may have about my testimony or about the Fund and its activities.

Senator MIKULSKI. Mr. Chairman, I am just going to submit my questions for the record.

Senator BOND. I would be happy to take those for the record.

I express my appreciation to Mr. Hawke and Ms. Lazar.

SUCCESS OF CDFI PROGRAM

Mr. Hawke, when you say the program has had growing pains, that is certainly putting the best face on it. That is what we might call meteor census.

I do recognize and I congratulate you on finding someone of Ms. Lazar's caliber to come in to run the program. You bring new hope and new promise, but I am still very much concerned about the track record of the program and the problems associated with overfunding a problem like this before we have capacity, before we know how it is working, when we do not know how the resources can be expended. This is where being from Missouri people believe me when I say, "Show me." I know many of these problems are problems that are being remedied.

But I would like to know what yardsticks, briefly just what yardsticks are used to determine whether a grant application can leverage other funds successfully, and what can you give us in terms of hard data that will confirm the promised success of the CDFI program.

Ms. LAZAR. Senator, the program has had a 2-year track record, and during that 2-year track record, all our decisions have been based on merit. We have a very detailed and thorough process for evaluating our applications. We look at the track record, financial strength, and current operations of the CDFI's that we are evaluating. We look at their capacity, skills, and experience of the management team. We look at the quality of their comprehensive business plan. We look at their ability to raise the required matching funds and the expected community development impact.

When we measure that impact, we enter into an assistance agreement with our awardees. Those assistance agreements contain performance goals that are structured over 5 years. We negotiate them with the awardees. An example of a performance goal for the particular institution might be to increase the number of loans each year to low-income individuals, to provide financial counseling to low-income borrowers, to increase investments in businesses in distressed areas.

For nonregulated institutions, we also negotiate financial covenants.

Our awardees are required to submit quarterly reports to us and annual reports. This year in 1997 we have also developed an impact report that they will be required to submit to us on an annual basis. It is a very, very rigorous process that will allow us to understand the impact of these organizations at the community level and their capacity to sustain themselves over time.

ASSURING THE AWARDS PROCESS

To address your issue about what has been fixed, for our 1997 round we put specific procedures in place that have proved effective in ensuring the integrity of the awards process. We developed specific CDFI program reviewer selection criteria. We developed a conflict of interest policy for CDFI reviewers. We developed conflict of interest certifications. We developed a 2-day training program for our reviewers. We crafted an initial review form to ensure consistency and fairness, and then a numeric scoring system to com-

plement that qualitative process. We have put together an interview guide for CDFI reviewers and written policies and procedures for our core and intermediary funding rounds.

Senator BOND. We would look forward to seeing the information that you have developed. I was going to ask a question on the conflicts of interest. I will have the staff look at that.

CDFI PROGRAM ACHIEVES GOALS

But you are telling me that these are procedures in the future, and is it too early to demonstrate results? Have you had confirmed successes which you can provide us for the record of where the CDFI program has achieved goals that you set out and have they been confirmed, not just reported, but confirmed by adequate independent, objective assessors of the program?

Ms. LAZAR. Thus far, Senator, we have put together anecdotal stories that we can share with you and provide them to you for the record. We also do, as I said earlier, require monthly and annual reports from our awardees, and over the course of the next year, we will be compiling that data in a way that it can tell our story in a way that shows that the dollars have been effectively used.

Senator BOND. Mr. Hawke, you look like you are ready to say something.

Mr. HAWKE. Just one short addition to that, Mr. Chairman, and that is that the real success stories in this program are at the street level. When the money is advanced by the CDFI, whom we fund, to the ultimate user, whether it is somebody who is starting a new business or getting a working capital loan, that is where the real proof of the program is, and those are not the people that we deal with directly in the CDFI program. But we have a number of anecdotal instances.

Senator BOND. We do not need the anecdotes, but I would like to have the independent objective assessment which shows the street level successes. We want to see that the program has been having the impact and we want it from an independent, objective assessment. I realize that you do not control it directly. We need to find out does it work. That is the key thing.

UNABLE TO MEET MANAGEMENT REQUIREMENTS

Let me ask two quick questions. I understand that the CDFI Fund as yet has been unable to meet the management requirements of the Federal Managers Financial Integrity Act. Are you taking steps to meet the requirements, and at what point do you expect to meet them?

Ms. LAZAR. I am happy to answer that question, Senator. We take this issue very seriously, and we are going through an FMFIA process as we speak. There were certain material weaknesses that had been pointed out in our audit, including a lack of delineation of responsibilities within the organization. We have put together an organization plan and have begun staffing under it. I was hired in January. We hired a Deputy Director for Management and CFO in November, and we selected a Deputy Director for Program and Policy in February. We have also hired managers for all the programmatic areas. So, we are working very diligently on staffing up and getting that organization plan in place.

One area that was identified that was of concern was that we did not have a CFO or an awards manager, an awards management process. We have hired a CFO and an awards manager came on board at the end of January. We have begun developing a structured system and putting the awards oversight rules in place within the organization.

Senator BOND. When can we expect to have the system working and providing results on, as I said, the independent, objective evaluation or assessment?

Ms. LAZAR. I think we will have that material by the end of the fiscal year. We will have gotten all our systems in place and we will have responded to all the material weaknesses that have been identified.

GOALS

Senator BOND. Well, we will want to see that. The promise sounds great. We are looking for demonstrated performance.

You have selected a wide variety of CDFI's and you have mentioned a number of criteria. We would like fuller description of the selection criteria for the record, and I would also like a listing of the weaknesses you see in the applications which result in denying CDFI assistance. But just for my edification at this hearing, would you give us a brief summary of what you look for that works and what you most commonly find when you deny something?

Ms. LAZAR. I have not gone through an awards process, but I will tell you what we have seen. We really look to see that these organizations can sustain themselves over time and that they are going to provide impact in the communities in which they are working. We look at a very, very thorough, comprehensive business plan that we ask our applicants to submit. We ask for documentation of their track record, their financial strength. We want to see their financials. We want to understand that they have the ability to raise matching funds from the private sector and their communities. Keep in mind that the matching funds have to be non-Federal dollars. We want to make sure that they have a strong management team.

Often, from what I understand, awardees have been turned down because one of those pieces was not in place. The business plan did not seem logical or accurate or the management team was not strong enough or the financials reflected a less than consistent growth pattern within the organization.

Mr. HAWKE. Senator, if I could just add one thing to that. In the budget for the coming year, we have got a total of $20 million allocated to training and technical assistance. One of the objectives of the training and technical assistance program is to help applicants meet deficiencies that might have come up in the applications process, to train them how better to establish financial controls and qualify under the kinds of standards that Ms. Lazar is talking about.

Ms. LAZAR. Senator, I would like to add that we also do debriefings of our applicants if they have been turned down for an award so that we could work with them and explain what the problems have been so that they might in the future work on their

growth and development through the advice we have provided them.

Senator BOND. I thank you for that information. Twenty million dollars sounds like a very generous amount to apply to a $125 million program.

But we look forward to working with you and having the further information on how well this is working. Basically, let me tell you I am skeptical about putting significant funds into a program until I see that it is working. We want to see the program continues so that we have an opportunity to evaluate it and see what kinds of benefits we are getting from the program because, as you can well appreciate, if you sit through all these hearings—I certainly do not wish that on anybody other than Senator Mikulski and our staffs and myself—you will find that we have some very compelling competing priorities which we have to fund from what is always too small a 602(b) allocation.

SUBCOMMITTEE RECESS

Thank you very much and we will keep the record open for other members of the committee who want to ask specific questions. We will be submitting questions to you. Please feel free, if you wish, to submit additional information for the committee above and beyond your full written statements and the answers to the questions that we ask you to fill out. We would be pleased to have such submissions.

With that and with thanks to all who participated, this hearing is recessed.

[Whereupon, at 12:05 p.m., Thursday, March 12, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENT OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, MARCH 19, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:33 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Christopher S. Bond (chairman) presiding.

Present: Senators Bond, Burns, Campbell, Craig, and Mikulski.

Also present: Senator Domenici.

DEPARTMENT OF VETERANS AFFAIRS

STATEMENT OF TOGO D. WEST, JR., ACTING SECRETARY

ACCOMPANIED BY:

D. MARK CATLETT, ACTING ASSISTANT SECRETARY FOR MANAGEMENT

KENNETH W. KIZER, M.D., M.P.H., UNDER SECRETARY FOR HEALTH, VETERANS HEALTH ADMINISTRATION

JOSEPH THOMPSON, UNDER SECRETARY FOR BENEFITS, VETERANS BENEFITS ADMINISTRATION

JERRY W. BOWEN, DIRECTOR, NATIONAL CEMETERY SYSTEM

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. Good morning. The Subcommittee on Veterans Affairs, HUD, and Independent Agencies will come to order.

This morning we meet to take testimony from the Department of Veterans Affairs on its fiscal year 1999 budget proposal, and later we will hear from officials representing the Arlington National Cemetery. We welcome VA's Acting Secretary Togo West this morning and other VA officials.

Mr. West, you are taking over the helm at a time of tremendous change at the VA. On the health care side, VA has undertaken a reorganization within the past few years, dramatically reduced its staffing, revamped its resource allocation system, and has begun implementing numerous efficiencies and improvements aimed at improving quality and cost effectiveness of care.

I believe the Veterans Health Administration is on the right track, thanks in large part to the VA's Under Secretary for Health, Dr. Ken Kizer. I will have other things to say about that, but Dr. Kizer, we appreciate the excellent direction you have given. His ef-

forts to reorganize and retool VA's massive health care system are beginning to show results.

A recent GAO report, which I requested, confirmed that medical centers are operating more efficiently, increasing the number of patients assigned to primary care, decreasing waiting time for appointments, and increasing the number of high priority patients. But there are still many challenges.

Last year Congress gave VA the authority to retain collections from third parties. VA is heavily dependent on such funds to operate the medical system and is struggling to improve its collections capability. Serious questions remain as to whether VA will be able to meet its goals in this area, as we will discuss later.

In addition, currently VA is embarking on creating an enrollment system and making available for the first time a complete health care benefits package to veterans who come to the VA for health care services. There appears to be confusion as to what the enrollment system will mean to veterans, and questions remain as to what will be included in the benefits package.

In addition, in certain networks there are concerns about the impacts of the new allocation system, VERA, and questions about quality of care.

Critical to VHA's success is adequate monitoring of the networks to ensure that veterans are consistently receiving quality health care services and that VA policy is being implemented uniformly in its hundreds of health care facilities.

No less important are the challenges facing the Veterans Benefits Administration. Over the past several years, numerous studies have been commissioned to determine how to fix the abysmal service veterans receive when they make claims for benefits, primarily in the disability compensation program.

There have been GAO reports, congressionally mandated commissions, business process reengineering efforts, and countless studies, resulting in voluminous recommendations. I suggest now is the time for action. We have done enough of the studying. We have thought about it. We have looked at it. We have got the consultation. It is time we get it done. Veterans just cannot wait any longer.

Previous efforts to make changes to the Veterans Benefits Administration seemed to have resulted in little or no improvement. Last year in my opening statement for the VA appropriation hearing, I noted I was pleased to see VBA's plans for business process reengineering efforts, but at the time I noted my skepticism as to whether VBA could meet its goals.

Unfortunately, in the past year performance seems to have gotten no better. In fact, we are learning that it may be worse than we thought because of inaccurate reporting from regional offices.

The key conclusion of the National Academy of Public Administration report, which this committee commissioned and which was released last year, was that VA has not met the challenge of achieving long-term improvement in services for veterans because it has not had consistent leadership and the strategic planning and management capacities needed to plan and rigorously implement such improvements.

I am encouraged that at long last VBA has new leadership. The new Under Secretary for Benefits, Joe Thompson, appears committed to making the changes, including organizational restructuring, and has noted the importance of disciplined strategic planning and management capacity.

Mr. Thompson, I sincerely hope—and more importantly, the veterans hope—that you can provide the real leadership that NAPA has called for. You have a great opportunity because you go into a situation which needs real leadership, and this is going to be an exciting test of your abilities to see whether you can provide the improvements that have been recommended and that are vitally needed.

I would remind the Department this committee has directed VA to provide by the end of March a comprehensive reform plan for the Veterans Benefits Administration, including an improved accountability system, the creation of a strategic management process, and a 5-year restructuring plan, among other things. We will look forward anxiously to receiving the report.

FISCAL YEAR 1999 BUDGET REQUEST

Turning to the budget request, VA's fiscal year 1999 budget request totals $42 billion, of which about $19 billion represents discretionary spending. The budget proposal includes $17 billion for VA medical care, which would be augmented by an estimated $677 million in receipts. Together with receipts, the medical care account would drop $40 million in fiscal year 1999.

VA's proposal is consistent with its plans announced a year ago to decrease patient cost by 30 percent by 2002, increase the number of users by 20 percent, and increase the amount of nonappropriated revenues to 10 percent of total funding. However, the administration's proposal to cut VA below the current level raises real concerns, and we wonder very truthfully whether we are cutting to close to the bone.

As I mentioned previously, VA is depending heavily on its ability to collect almost $700 million in third party payments to accommodate increased payroll and other inflationary requirements. Unfortunately, the Department's track record on collections is somewhat less than stellar. VA currently is lagging its fiscal year 1998 estimate by 10 percent, and GAO has been very skeptical of the Department's ability to significantly improve collections.

In addition, the Department is banking on enactment of legislation authorizing VA to bill Medicare for certain Medicare-eligible veterans to meet its 30–20–10 goal by the year 2002. Yet, it appears that this proposal continues to encounter opposition, and its enactment is far from certain.

With respect to VA's research program, I was pleased to see that the administration at last recognizing the value of this program by requesting a 10-percent increase, for a total of $300 million. Last year the administration called for an almost 11 percent decrease to this important program. So, we are delighted finally to see administration support for a program which has resulted in improved quality of care, as well as incentives for topnotch doctors to work in VA hospitals. We think the two go hand in hand and must be taken as a whole.

However, the research budget has been packaged by the administration as part of its Research Fund for America which is proposed to be offset in part by tobacco settlement legislation. The administration's budget request is replete with phony or unrealistic assumptions, and this is an example. The administration's budget raises expectations which the Congress simply will not fulfill. That dog will not hunt.

Given that there is far less room under the discretionary budget caps than the administration's budget would spend, it is not clear whether we will be able to meet the President's request for a $28 million increase for VA research. But if funds are available, this will certainly be one of our priorities.

According to VA's budget, there will be a proposal forthcoming for a new smoking cessation program for veterans, to be accompanied by an $87 million budget amendment. We have seen no details on this program nor how we would find the resources to fund it.

It is interesting that the amount proposed for this program would bring total discretionary spending for the VA exactly even with the fiscal year 1998 level. In any event, we would urge the Department to provide information to the committee as soon as possible on this proposed new program.

For general operating expenses, VA is requesting $850 million, an increase of $63.5 million. The increase would go in part to a number of VBA initiatives such as computer-based training, which are intended to streamline and improve service to veterans. While we support this, we want to be sure the initiatives are the highest priorities and the most effective means to improve service delivery to veterans.

In the area of construction, VA's budget would cut construction programs by 36 percent, including an unacceptable reduction to the State home program of 54 percent. This program is an example of a strong Federal-State partnership in providing much-needed nursing home care to veterans, and there is a backlog of $125 million in priority projects which were not funded this year due to inadequate funds.

Just by way of example, to select one State, Missouri, nursing homes in St. Louis and Mt. Vernon applied for fiscal year 1998 funds and were denied. I fully expect that they will seek funds next year, and under the President's request, they likely would be rejected.

In terms of the major construction budget, I am also very disappointed that a project which has been in the pipeline for some time to expand the St. Louis National Cemetery has not been included in the budget. I have been told that this project was originally requested in VA's submission to OMB, but the green eye shade types at OMB rejected VA's request.

If additional grave sites are not developed, Jefferson Barracks National Cemetery will deplete its current inventory of full casket grave sites in 2005, and veterans will be denied access to burial in a national cemetery in relatively close proximity to their place of residence. OMB's decision to strike this important project from the budget is troublesome.

That concludes my opening statement and it is now my pleasure to turn to my ranking member, Senator Mikulski.

STATEMENT OF BARBARA S. MIKULSKI

Senator MIKULSKI. Thank you very much, Mr. Chairman.

This morning I would welcome to his first hearing before this subcommittee the Acting Secretary of the Department of Veterans Affairs, Mr. Togo West. Mr. West, we look forward to working with you, as we did when you held your post as Secretary of the Army, and we look forward to helping you expedite your confirmation. But whether you are acting or you are confirmed, I think we are all confirmed in the belief that you are going to be an outstanding Secretary of the Veterans Administration.

Also, I would like to welcome from the Department of the Army who will testify during the second panel, the National Cemetery, John Zirschky, the Acting Secretary——

Senator BOND. Zirschky.

Senator MIKULSKI. Zirschky. You know, Polish names are in the news these days. I should get this straight. [Laughter.]

Mr. Chairman, I look forward to hearing the testimony. I just wanted to let you know that I am going to be leaving about 10:20 a.m. to join the First Lady in the introduction of the reauthorization of national service. I am not marked absent.

First, let me begin by thanking the VA for its support of several facilities in my State that are providing essential care for the veterans of Maryland. I would like to particularly thank them for taking a model that we developed in western Maryland for outpatient services and then really being able to move those services throughout the State of Maryland in a way that meets the Vision 5 procedure.

Also, I know that we are going to be opening construction of an 80-bed acute psychiatric building at Perry Point. That building that it is replacing is one that goes back before World War I in which mentally ill people were in buildings that had difficulties with the air conditioning and so on.

I want to thank the VA for also working with me and other officials to ensure that we have access to quality care.

Mr. Chairman, since the VA was founded, we have fought three wars: a World War II, a cold war, and a gulf war. And from Korea, Vietnam, Persian Gulf, each conflict produces a new generation of veterans each with a unique set of needs.

Also acknowledging the wonderful role that women played—and, of course, Arlington is this fantastic memorial—it is really since Vietnam that the role of women and the women making use of veterans health care has really been increasing, and we thank you for your focus on this.

The particular needs of veterans may vary somewhat from veterans of different eras, but one thing should never change. That is the commitment we make to our veterans, particularly to make sure the quality health care is available to them and that effective services, including the timely processing of benefits, is our No. 1 priority.

I am going to commend Secretary West today for some of the budget recommendations that they are making. I am particularly

heartened with the $28 million increase for VA medical research. We know that many of the games in being able to control cost comes from the use of better—the new smart weapons against disease, just like the smart weapons of war helped us be able to be more efficient. We also know that VA medical research has a unique role to play because it is about hands-on clinical practice working also with the best of NIH.

We want to work with the chairman to ensure that VA medical research continues to be a priority within the VA budget and to make sure that they have the resources they need.

I also would like to commend Dr. Kizer for the improvements that he has made in reducing patient cost. We might not be where we ultimately want to be, but I know since last year, I note that patient cost have been reduced by 9 percent and 23 percent since 1993. I think that this is really something to be commended and also then see how further gains can be made without skimping on care. We do not want to shortchange the veterans themselves.

Also we know that the veterans' demands are increasing.

There are some yellow flashing lights that I have in the budget. For the second year in a row, I am concerned about the fact that there has been—what I am concerned about is the VA's slow progress in collecting paybacks from private insurance. If we are going to have reliable revenue streams both in Congress, you as the CEO and our clinical director, which is what Dr. Kizer is, needs to be sure what are the revenue streams that really are reliable. I think from what I note, the first quarter of fiscal year 1998, VA's collections were running behind projections by $9 million. So, we look forward to hearing about that.

The other thing that we are concerned about is the continual problem of how long it takes to process a VA claim. I know that we have recommendations here, but really it is getting worse rather than better. Even when I chaired the committee, and with the support then of Senator Garn, Senator Gramm, now Senator Bond has this stewardship of the committee, the processing time actually seems to be increasing, and I think that is unacceptable. So, we look forward to hearing about that.

We also know that there are new challenges facing the aging veteran, and we look forward to how we will meet those needs within our fiscal parameters.

The other thing that I want to comment on is two things.

One, the progress we need to make on the year 2000 computer problem, and I understand gains have been made there.

Then another. I raised it, Mr. Secretary, with your predecessor, and that is the GI educational benefit. The GI who now uses the educational benefit is very different than the World War II guy who came home which enabled many of our men to leapfrog really to be solid members of the middle class. It was the largest single upgrade of male educational levels I think anywhere in the world.

Now I think we believe in lifetime learning. No. 2, when you go to school, you do not go to school with a little parka and sing boola-boola and Ivy League songs. Many will be in community colleges. Many will be in continuing education. Many might be stretching out their education. Many might have had one but would like to use the GI bill to retrain so they can keep ready.

I would like for the VA to look at where does the educational benefit fit through with the idea of lifetime learning and also the opportunity for many of our older veterans, who might have not ever used the educational benefit, for them to have a chance to upgrade where they are in the work force. For many of the guys and gals that came out, they had training in the military. It put them in the work force. The electronic technician, the people you would be familiar with, Mr. West, particularly the minority population. But now the new world order needs whole new technological skills, and I wonder where the VA would fit into that. That is new thinking. We need to do homework. We do not want to create a whole new unrealistic set of entitlements, but I do think since our military helped us be ready for the new world order, I want to be sure that we back them when they are home to make sure they can participate in the new economic world order.

So, I thank you and I look forward to hearing your remarks and working with you.

Senator BOND. Thank you very much, Senator Mikulski.

Senator Campbell.

PREPARED STATEMENT OF BEN NIGHTHORSE CAMPBELL

Senator CAMPBELL. Mr. Chairman, since I have to run to another committee, I would ask unanimous consent to have my complete opening statement put in the record.

Senator BOND. We would be delighted.

[The statement follows:]

PREPARED STATEMENT OF SENATOR CAMPBELL

Good morning, Mr. Chairman. It is a pleasure to be here this morning and I welcome Acting Secretary West and his colleagues who have come before us today to testify on the 1999 VA budget request. I am aware of the time constraints today, so I will only say a few words.

Thus far, the 105th Congress has proven to be exceptionally active for veterans' issues as we continue to face many challenges. Like my colleagues here on the Committee, I am pleased that we can begin to put behind us, a deficit that has routinely inhibited our ability to maintain worthwhile veterans programs and forced us to place a monetary value on the service to our veterans. It is a pleasure to be operating on the road to a balanced budget and we will do so with our nation's veterans at the forefront of concern.

I recognize the efforts that VA has made in producing a fiscally responsible budget and I commend your work in this respect. I am greatly concerned, however, by any proposal that provides less than adequate funding for VA health care spending.

Over the next five years, the VA aims to reduce its per-patient cost by 30 percent, increase the number of patients served by 20 percent, and finance 10 percent of its own expenditures using nonappropriated funds. This is certainly an admirable list of goals but I do have concerns with VA's ability to deliver these promises. Like the fiscal year 1998 request, funding for the VA Health Care will remain unchanged for 5 years but would be supplemented by the collection of third-party reimbursements. Like all veterans, I would love to see this plan work, but I am pretty uncomfortable with such a gamble being taken with veteran health care.

I am also very concerned with the VA's proposal to bar compensation for veterans suffering from smoking-related illnesses. While serving in the Air Force during the Korean War, I can remember personnel being permitted, and even encouraged to use tobacco. I have great concern for such a proposal that turns our veterans out into the cold. Until a clear understanding is reached on the history of this policy, I do not see this to be a fair plan.

I remain eager to continue working with my colleagues on this subcommittee and the VA Committee to address the many issues presented by an ambitious health care plan, a staggering backlog of veterans claims, and the mysteries of Persian Gulf War illness. Over the past weeks, we have been plainly reminded of the poten-

tial conflict with which U.S. military forces can so readily be faced. As there is still so much work to be done in caring for the veterans from the Persian Gulf war, it is vitally important that this reminder reinforces our commitment to this group of veterans.

I thank the chair and look forward to this morning's testimony.

Senator CAMPBELL. Just to welcome Secretary West and associate myself with your comments on the so-called 30–20–10 program. That is a great goal and I hope it can be done, but I do have some worries about it. I am a little uncomfortable that we might be taking a gamble, and I am looking forward to reading your testimony in detail.

I am also concerned about the VA's proposal to bar compensations for veterans suffering from smoking related illnesses. I was in the service myself, as you were. I do not know about your age group. In my age group, everybody was encouraged to smoke. At virtually every stop, if you have them, smoke them, they would say to us. It just seems to me when we have encouraged soldiers to smoke and we now have many of them that are retired and have lung problems, that we should not just abandon them. So, I hope we are going to be able to deal with that.

Then, finally, I have to say, Mr. Chairman, that everybody is talking about the tobacco settlement, where we are going to put the money from the so-called settlement. I do not know if we are even going to have that much to divide up after we look at all the requests from different people. But the amount of money that is going to be doled out is made by these economic assumptions, and from my perspective, an economic assumption is a prediction made by learned, scholarly types in Washington, DC. But if you go out where Senator Burns comes from and ask the people at the sale barn what is an economic assumption, they will tell you it is a wild-eyed guess or something like that because they have not got a crystal ball anymore than these experts here have. So, I really worry a little bit about all the talk we hear now about where are we going to put all this money from the so-called settlement before we have it.

But I do look forward to reading your testimony and welcome the committee. Thank you, Mr. Chairman.

Senator BOND. Thank you, Senator Campbell.

Senator Burns.

STATEMENT OF CONRAD BURNS

Senator BURNS. Thank you, Mr. Chairman, and thank you, Mr. West, for coming this morning. I just want to mention a couple of things.

First of all, I want to compliment you and your staff and the hospitals. I just had a daughter that graduated from medical school out in Seattle at the University of Washington, and she did some rotations at veterans hospitals out there. As a physician now that she is, those experiences were pretty positive. The reason I mentioned that, I talked to her last night and she said, well, just tell them that all the experience I had was very positive.

I want to mention a couple other positive things that are happening too. Sure, we all have our misgivings and maybe we have a different way of approaching things, but I think we have done a major

step whenever we start talking about where Senator Campbell comes from, Senator Craig, and yes, and even in my old home State of Montana. We are getting some rural clinics on line. We are looking into and trying to take advantage of benefits of telemedicine in the areas of psychiatry and consultation, evaluations, those type things, and that is going to have to be if our rural clinics are going to have any kind of success at all. We have counties that have no doctors at all, and the travel to a VA installation becomes a challenge to some of our older veterans.

I guess I was really made aware that we have the technology to do a lot of things when I was on the U.S.S. *George Washington*, and I went through their hospital there and saw how they use telemedicine and providing health care for 4,500 sailors in a very confined area and a long way from home. I want to help you in that area.

I think I just have one little problem with this. I looked at research. In here you added about $28 million to that, or is it $28,000? I do not know what it is. Probably $28,000, something like that.

Mr. WEST. $28 million.

Senator BURNS. $28 million?

I think whenever we start talking about research in this area, I think there is some redundancy here that we could probably take advantage of the research that is going on at NIH and a host of other places. I would sincerely think that maybe you could get a memorandum of understanding or something to work with these research centers and we could probably save a little money there.

I cannot stay for your statement, but I will read it because I have got to go to a tobacco hearing. I have the same concerns about that as Senator Campbell does.

Again, I want to thank you.

In the area of the gulf war, some of the things that is coming out of the gulf war, those veterans. So far I think we need to accelerate of handling those cases, accelerate that a little bit better because I have heard a little grumblings out there.

But welcome aboard and we look forward in working with you, especially in that area of telemedicine. Of course, I think we have to explore one of these days of giving our veterans a card like a credit card and allow them to get their health care in their own communities. I think we have to explore that one of these days. Now, I realize that the bureaucracy shudders at that thought, but nonetheless, I think we should be moving in that area where we can serve our people better, and people just kind of like to go to doctors and get in hospitals at home, if they can. So, I think we ought to continue to explore that idea but understanding the powers that be, I also understand that too. So, thank you very much and thank you, Mr. Chairman.

Senator BOND. Thank you, Senator Burns.

Senator Craig.

STATEMENT OF LARRY CRAIG

Senator CRAIG. Thank you, Mr. Chairman.

Welcome, Mr. West and all of you from the Veterans Administration.

Let me ask unanimous consent, Mr. Chairman, that my full statement become a part of the record.

Two observations. First of all, I am pleased that there is support for the demonstration program test for feasibility of Medicare subvention. I think that is clearly a step in the right direction. It speaks to a need to serve all veterans instead of squeezing, squeezing, squeezing the budget down and developing and tightening categories of those who may receive assistance in health care from our system.

Also, I am frustrated by this year's construction budget, down 45 percent from last year and, of course, last year was down from the year before. While I realize construction needs will change over the years, I have concern that the $285 million is drastically inefficient to cover essential, necessary projects that the VA lists as priorities. And in that, I am speaking primarily of the construction and maintenance of extended care facilities. That has been cut almost one-half from the request of $80 million of 1998 to $37 million, as I mentioned in 1999.

The substantial decrease brings to mind questions about the VA's commitment to meeting its construction requirements. Currently there are $237 million in category 1 projects for which the States have come up with the 35 percent of the cost and are waiting for the Federal Government to meet its obligations. Now, that is a clear signal, that if the States have come up with some money, they have assessed the need and determined that it is worth their money to match the obligation, and the obligation is, of course, the 65 percent on the Federal Government.

PREPARED STATEMENT

So, it concerns when we look at our largest aging veteran population in history. You estimate the number of veterans age 75 and older will increase by approximately 2.6 million from 1995 to 4 million by the year 2000. That is exactly what those extended care facilities are needed for. I am surprised that this budget is that small compared with what the States are ready to do.

Thank you, Mr. Chairman. I look forward to your testimony.

[The statement follows:]

PREPARED STATEMENT OF SENATOR CRAIG

Mr. Chairman, thank you for holding this hearing regarding the Veterans Affairs budget for fiscal year 1999. The Veterans Administration has the tremendous task of administering benefits and services to more than 25 million veterans and approximately 44 million members of their families.

As a fiscal conservative, I often find it a difficult task to weigh the decision between program funding and keeping a budget balanced. However, in the long run, a balanced budget will serve all Americans, including our veterans. With limited dollars to allocate, it is more important than ever that we make certain we effectively prioritize programs and projects.

Medical care.—I am very pleased about the Administration's support for the demonstration program to test the feasibility of Medicare Subvention. I have long been a supporter of this concept, and was glad that Congress finally authorized the DOD to establish a limited Medicare Subvention program. Subvention will help provide greater, and much needed access to VA facilities for those veterans who do not have service-connected disabilities. I, like other Idahoans, am very eager to find ways to increase access to medical care for our veterans.

Construction budget request.—This year's construction budget is down 45 percent from last year, and down even more from fiscal year 1997. While I realize construc-

tion needs will change over the years, I am concerned that $285 million is drastically insufficient to cover essential necessary projects that the VA lists as priority.

For example, the request for construction and maintenance of extended care facilities has been almost cut in half from a request of $80 million (fiscal year 1998) to a request of a $37 million (fiscal year 1999). This substantial decrease brings to mind questions about the VA's commitment to meeting its construction requirements. Currently, there are $237 million in "Category One" projects for which the States have come up with 35 percent of the costs, and are waiting for the Federal Government to meet its obligation to provide the other 65 percent. $37 million will barely cover the costs of five projects.

Currently, our nation is faced with the largest aging veteran population in its history. The VA estimates that the number of veterans aged 75 and older will increase from approximately 2.6 million in 1995 to 4.0 million in 2000. We must make certain we have the facilities to meet a growing need. If we don't we will fail to meet our obligation now, our nation's veterans could suffer the consequences very soon.

Senator BOND. Thank you very much, Senator Craig.

Secretary West, as always, we will include your statement in full with any additional information you wish, as well as leaving the record open for a number of days for other questions from members of the panel. Now I invite you to proceed and summarize, to the extent that you think it would be helpful to the committee, your testimony.

STATEMENT OF TOGO D. WEST, JR.

Mr. WEST. Thank you, Mr. Chairman. I have only a few comments. I appreciate your including the full written statement.

Mr. Chairman, Senator Mikulski, members of the subcommittee, I appear before you today to present the President's fiscal year 1999 budget for the Department of Veterans Affairs. It is a pleasure to do so on this, I guess, my maiden voyage. I am the only person of the folks sitting at the table before you who is not an employee of the Department of Veterans Affairs. I am still on the rolls of the Department of the Army. So, it is good to see my former and, I guess for the moment, current colleagues here in the back there.

You already noted the presence at the table of the Under Secretary for Health, Dr. Ken Kizer, to my immediate left and your right. To my immediate right, the Under Secretary for Benefits, Joe Thompson. Also to my immediate right is the Acting Assistant Secretary for Management, Mark Catlett, and to the far left, the Director of the National Cemetery System, Jerry Bowen. Those are the five of us who are at the table.

Mr. Chairman and members of the committee, in the 5 years of this administration, the Department of Veterans Affairs has embarked on a course of change, a course I think was outlined by you fairly in some of your opening comments. These changes have resulted, I believe in my observance during my brief 10 weeks or so in this position as Acting Secretary, some improvement in the time it takes to process benefits claims by veterans. Although several members of the subcommittee referred to an increase in the time to process claims, in fact, even with I think what all of us will acknowledge are unsatisfactory results to date, claims are being processed faster than they were 5 years ago. In 1994 the average processing time for an original claim was 213 days. In 1997 that was down to 133 days to process. It is true, as you pointed out, that that number has risen, but happily not back to the 1994 figure.

As you will hear from our Under Secretary for Benefits, our goal is to continue to improve processing timeliness even as we devote some attention to improving processing accuracy. It is important not just to be timely in the processing of claims, but to get them right the first time, otherwise the delay to our veterans is doubled, even tripled.

We are, as you pointed out, in the fourth year of a massive transformation of the health care system at VA. That has resulted in more outpatient care, less inpatient care, as was referred to by several members of the subcommittee, more outpatient clinics, and yes, even the closing of unused and unneeded hospital beds.

The fiscal year 1999 budget request will permit us to provide health care to even more veterans, and Mr. Chairman and members of the subcommittee, to take that health care to where the veterans are.

We continue to integrate organizational elements within the VA to become more efficient, more cost effective, more vigilant, but also to continue the increase in quality.

As we move into the next millennium, I look forward to working with you, with this committee, on behalf of veterans and their families. I will expect, if confirmed, and am prepared to demand of this Department several things: first, that we improve the timeliness and the accuracy of our delivery of benefits to our veterans; second, that we continue the transformation of health care in this Department, emphasizing quality, compassion, and effectiveness; third, that we master the challenges of information technology and make it available to serve our veterans better, including the looming issues of year 2000 which, as you have acknowledged, I think we have a pretty good handle on, certainly as compared with our colleagues elsewhere in the executive branch, although that may be a low standard of comparison. [Laughter.]

Senator BOND. Do not set the bar too high. [Laughter.]

Mr. WEST. That we assure that our employees in this Department have a work environment that is conducive to their best efforts in order that they can better serve our veterans since it is the team that delivers the benefits, that delivers the care to those whom we are here to serve.

And finally, that we continue the efforts begun by my predecessor, Jesse Brown, to integrate more fully the Department's organizational elements and the process known as ensuring "One-VA."

Mr. Chairman, in this budget, as you have noted, we are requesting $42.8 billion for both mandatory and discretionary programs, and as you have also observed, quickly I will confirm, yes, $17.7 billion for medical care, $21.9 billion for compensation and pension payments, $92 million for the National Cemetery System.

We are also requesting a 10-percent increase in funding for medical research, and I will also point out in response to the one observation that was made that we do indeed seek to take advantage of the ability to cooperate with other agencies. If you consider over $400 million in NIH and other grants, the $300 million appropriation, and funding the Department provides for doctors' salaries—we are looking at a total investment by this Department of over $1 billion in research. That I think is a good effort and an important

effort in terms of what it portends for our veterans in the years ahead.

Mr. Chairman, with this budget, we will be able to open 71 new outpatient clinics. We will treat an additional 134,000 veterans over the ones we treated in 1998. That is a 4-percent increase. With this budget, we will provide quality health care for more than 3.4 million individual patients, an increase of about 134,500. This level of funding in this budget should support almost 695,000 inpatient episodes, 37 million visits to our outpatient clinics.

Mr. Chairman, with this budget, we will expand, we will improve the health care delivery, and we will do it, as you have noted, without an increase in appropriated funds above the 1998 enacted level if we can receive the requests we are seeking in certain elements of this plan. Some of this is within our own capability, as you noted, to realize the success that we have tried to build in our third party collections. At the same time, some of it is in the hands of the Congress. We are pleased that there is movement on the Medicare subvention front. We still support it, but more importantly, as you have noted, our plans rely on it.

Mr. Chairman, there are some new initiatives in this budget. There is $87 million for a new smoking cessation program, as you have noted. There is an increase of $191 million for the Montgomery GI bill. That is a 20-percent increase, the largest in its history, and there is an increase of $100 million for the VA's readjustment benefits accounts which reimburses the Department of Labor for its programs that assist veterans to find employment.

The budget contains funding and personnel to continue the activation of four new cemeteries during the next 2 years. They will serve the metropolitan areas of Chicago, IL; Dallas, TX; Saratoga, NY; and Cleveland, OH. This is the largest new program in cemetery construction I think since the Civil War.

In summary, this is a sound budget. This is a realistic budget. It is a budget that puts our veterans and their families first, but as you have noted, it is a budget that depends on success in several important areas. Our job then, Mr. Chairman, in this Department and mine as its acting head is, yes, to be a part of the administration's program but to keep foremost in our minds that we have a unique mission to serve veterans and that we are here to do right by those who have done right by our country.

Mr. Chairman, the comments by the members of the subcommittee and my comments demonstrate I think that VA is undergoing significant change in a number of areas. We are changing the way we do business. Some years ago in the early 1960's, a young American President commented to an audience in Germany that change is the law of life. He said we should not be afraid of change, but embrace it. He said that those who stand with their eyes too firmly fixed on the past or concentrating solely on the present are sure to miss out on the opportunities of the future. He was talking about global security.

Today you and I are talking about the protections that we owe our veterans, but in either case, the message is the same: We must not be afraid of change. We must embrace it, and the signal effort in this budget is to continue the change you have noted in VHA, the changes that are underway in the Veterans Benefits Adminis-

tration for the simple purpose of improving and assuring the delivery and continuation of services and benefits to our veterans in the future.

PREPARED STATEMENT

It is a significant undertaking. We cannot do it alone. We need all the help we can get, and that is why we are here today.

Mr. Chairman, we are available for your questions.

[The statement follows:]

PREPARED STATEMENT OF TOGO D. WEST, JR.

Mr. Chairman, members of this committee, I am pleased to present the President's fiscal year 1999 budget request for the Department of Veterans Affairs (VA). We are requesting $42.8 billion in new budget authority for veterans' programs.

Throughout my professional life, I have witnessed the unique contributions of our men and women in uniform. Their sacrifices have kept this Nation free and secure. I am privileged to have been asked to help keep the Nation's promise to the veterans of many different eras for their very special contributions to the United States.

Working with Congress over the past 5 years, VA has torn down bureaucratic barriers between veterans and their health care and compensation benefits, has reorganized its health care system, and has revised eligibility rules to best meet the needs of our veterans. VA right-sized, cut back, did more with less, and reallocated resources to accommodate the changing needs of those we serve. VA is keeping America's promise to the Nation's veterans.

My goal will be to keep VA on this aggressive course. We are working to ensure the improved delivery and accuracy of compensation and pension benefits, continue improving our health care system, and fully integrate the Department's organizational elements into "One VA." Our systems must operate in unison and our focus must be on the veterans and improving their quality of life. VA has the talent and the will to accomplish these goals. A vital element for our success must be providing a workplace free of discrimination and harassment in all forms. We must recognize our employees for their innovation and provide the appropriate tools for their work.

Our budget request builds on our previous accomplishments and positions us for the future. Highlights of our proposal by major component are:

Medical care.—The budget provides $17.7 billion (includes $677 million in medical collections), to provide medical care to eligible veterans. By continuing to improve the delivery and access of outpatient care, the Department will open 71 new outpatient clinics and treat 134,000 more veterans in 1999 than in 1998, a four percent increase. The Medicare subvention demonstration program will again be recommended by the Administration.

Montgomery GI bill and readjustment benefits.—The budget proposes to increase mandatory Montgomery GI bill education benefits by 20 percent, or $191 million, in 1999—the most significant increase in benefits since the program's inception. The budget also proposes an increase of $100 million ($500 million over 5 years) in VA's readjustment benefits account to reimburse Department of Labor (DOL) programs to train, retrain, and assist Vietnam-era veterans to find employment. The proposed funding would enable the development of a national program that would target dislocated veteran workers, giving emphasis to the needs of individuals from 40 to 65 years of age, large numbers of who are Vietnam-era veterans, and those receiving public assistance.

Medical research.—The $300 million request includes a ten percent increase over the 1998 enacted level for research into illnesses affecting veterans and the general population. This program is included in "The Research Fund for America."

Veterans Benefits Administration.—The budget provides $806 million, $52 million over the 1998 enacted level, a seven percent increase, to ensure the smooth delivery of compensation, housing, education, pension and insurance benefits to veterans.

National Cemetery System.—The budget requests $92 million, $8 million above the 1998 enacted level, to operate the National Cemetery System. At this level, the Department will open four new cemeteries during the next 2 years—a number unprecedented since the end of the Civil War.

Smoking Cessation.—The budget proposes to establish a $87 million smoking cessation program for veterans who began to smoke during military service.

Further details on our fiscal year 1999 request are as follows.

PROVIDE QUALITY HEALTH CARE

Dramatic change has occurred in the veterans health care system in the past 3 years. Our primary consideration is providing quality health care to as many patients as possible. We also must continue to emphasize our goals of achieving greater value for the expenditure of health care dollars, and we are committed to reaching our other strategic goals. Some of our strategies may be similar in principle, or practice, to what other health care organizations are doing to become more efficient and effective. Our efforts, however, must be understood within the context of VA's special mission of serving veterans, many of whom have unique medical conditions not well suited to "market-based" strategies. We are also dedicated to educating the next generation of health care providers and researching solutions to some of health care's most perplexing problems.

One of VA's key strategic objectives is the enhancement and system-wide standardization of quality. Through the integration of strategic planning, performance management and financial goals and targets, VA has organized a system of coordinated health care delivery focused on continuous quality improvement that is patient-oriented, ambulatory care-based and results driven. Better care management is one of the major strategies that will transform the health care delivery system to treat patients in the most appropriate setting. Use of primary care providers/teams to coordinate health services is already enhancing quality and the cost-effectiveness of care. As we continue to perfect functional performance measures, management and patients will be able to assess whether or not high quality health care has been achieved. We continue to emphasize the importance of employing new technology, education and research capabilities to increase efficiencies, reduce costs, and enhance quality of health care provided to veterans. We believe this strategy will preserve the viability of the health care system well into the next century and prepare VA to continue to meet the diverse health care needs of the veteran population, especially the special needs of those groups of veterans for whom VA is the hallmark provider or who cannot afford other health care options. The reinvented VA system is on its way to becoming a model for future integrated health care systems, public and private.

EMPHASIZE A BUSINESS-LIKE APPROACH TO HEALTH CARE

VA will continue the course set in 1998, emphasizing and supporting a dynamic business-minded approach to health care delivery within a framework of quality. Retention of all medical collections and user fees will add tangible incentives for our employees to enhance customer service. The opportunity for additional patients to choose VA has the potential to improve the return on the VA infrastructure investment made by the taxpayer and to maintain the health of the VA health care system. We will continue to distribute medical care resources under the Veterans Equitable Resource Allocation (VERA) system. The financing of additional workload in 1999 reflects our ability to serve more veterans with their care financed by a system-wide unit cost reduction achieved by increased emphasis on primary care services.

VA will expand and improve health care delivery without any increase in appropriated funds above the current 1998 enacted level for Medical Care. Resources include the Medical Care account's annual appropriation ($17 billion), sharing and other reimbursements ($147 million), and the Medical Care Collections Fund ($677 million). We expect to provide quality health care to more than 3.4 million unique patients, including 3.0 million veterans, an increase of approximately 134,500 unique patients. The new funding level should support almost 695,000 inpatient episodes and 37 million outpatient visits.

Starting in 1998, VA committed to the goals of reducing per-patient cost for health care by 30 percent, serving 20 percent more veterans, and increasing alternative revenue sources to 10 percent of all Medical Care funding by 2002. This five-year projection assumes fiscal year 1998 authorization of Medicare subvention, successful pilot testing, and expansion nationwide. It is important to emphasize that the per unique patient price reduction of 30 percent is dependent upon the workload increase of 20 percent. This dynamic allows VA to spread its fixed cost across an expanded workload base.

IMPROVING BENEFITS DELIVERY

We have made a strong commitment to improving the quality and timeliness of processing compensation and pension claims through better management and development of a Balanced Scorecard for measuring progress. Using five core measures—customer satisfaction, speed, accuracy, unit cost, and employee development and

satisfaction—Veterans Benefit Administration (VBA) will upgrade the delivery of benefits and services to veterans and their families. In pursuing the Balanced Scorecard, VBA will establish new management information systems and revise existing ones. This will be accomplished in a manner that is consistent with our departmental efforts to generally improve information content management. Some current performance measures and targets will change as new systems are implemented with new data consistent with the Balanced Scorecard. Eventually, VBA will use a data-driven Balanced Scorecard to link effective strategic planning and performance management with annual budget requests and truly become a data-driven organization. The real measurement of services will be improved satisfaction of our veterans.

This budget requests $22.6 million to continue VBA's Business Process Reengineering (BPR) initiatives aimed at producing significant improvements in processing compensation and pension claims over the next few years. We are also requesting additional funds to fully automate our education assistance payments for veterans and their dependents, making it much more convenient for them and less costly to the taxpayer. We are requesting increases for other program enhancements aimed at providing better service for veterans at reduced cost, including creative use of information technology and expanded training opportunities.

ENSURE A LASTING TRIBUTE FOR VETERANS AND FAMILY MEMBERS

We project that annual veteran deaths in the United States will increase over 14 percent, from 525,000 in 1996 to 601,200 in 2003. Annual veteran deaths are expected to peak at 620,000 in 2008. As the number of deaths increase, the National Cemetery System (NCS) projects increases in the number of annual interments from 71,786 in 1996 to 104,900 in 2008.

Our request for the NCS continues to position VA to meet these future requirements. The budget includes funding and personnel to continue the activation of four new cemeteries during the next 2 years—an increase unprecedented since the end of the Civil War.

State veterans cemeteries are a complement to VA's system of national cemeteries and have an important role in meeting future burial demand. To foster an enhanced partnership with the States, as proposed last year, legislation is under consideration to amend 38 U.S.C. 2408 to encourage the establishment, expansion, and improvement of State veterans cemeteries by increasing the maximum Federal share of the costs of construction from 50 percent to 100 percent. The legislation would also permit Federal funding for up to 100 percent of the cost of initial equipment for cemetery operations. States would be responsible for providing the land and paying all costs related to the operation of the State cemeteries and for subsequent equipment purchases.

IMPROVE PERFORMANCE-BASED BUDGETING

The Government Performance and Results Act is the primary vehicle through which we are developing more complete and refined strategic goals and performance information. This will allow us to better determine how well VA programs are meeting their intended objectives. We are continuing to move our focus away from program inputs and toward program results.

During fiscal year 1997, we published our initial strategic plan under the Results Act. This plan covers fiscal year 1998 through fiscal year 2003 and was submitted to the Congress in September 1997. The strategic plan is structured around two themes—Honor, Care and Compensate Veterans in Recognition of their Sacrifices for America; and Management Strategies. The first theme addresses the strategic goals for VA programs that provide benefits and services to veterans and their families. The second presents process-oriented strategies that will help VA operate as "One-VA"—a unified organization delivering seamless service to veterans with a focus on providing world-class customer service, ensuring a high performing workforce to serve veterans, and providing the taxpayer maximum return on investment. The Departmental goals and objectives in the strategic plan are the driving forces for budget formulation and performance planning.

We have completed our first performance plan under the Results Act. This plan contains specific performance goals, performance measures, and target levels of performance within each program supporting the broader general goals in the strategic plan. We have integrated the fiscal year 1999 performance plan into our budget request to begin drawing a closer relationship between resources and performance.

We continue to strengthen our strategic management process and to respond to Congressional and GAO criticism of selected management problems in the Department. The prominent criticisms are the need for VA to: (1) identify the purposes and effectiveness of our programs, (2) integrate our information technology investments,

and (3) validate our performance measurement data. We have a number of key initiatives ongoing. First, we are developing a list of programs and a schedule of program evaluations that will assist us in determining how well our programs are meeting their intended objectives. These evaluations will begin in fiscal year 1998. Second, we are establishing an Office of the Actuary which, among other areas of responsibility, will be involved in developing and providing information to be used in assessing performance measures and in gauging progress toward achieving our organizational goals and objectives. Third, we have launched a project to bring about a greater degree of integration of our various customer service activities, a project that will focus on how information technology can enhance the Department's customer service. And finally, the Office of the Inspector General is conducting a study to review the validity and reliability of VA's performance data. The initial part of this study focuses on timeliness data for compensation and pension claims, but during fiscal year 1998 this effort will be expanded to include measures covering the medical care program.

I will now briefly summarize our 1999 budget request by program.

MEDICAL PROGRAMS

MEDICAL CARE

The 1999 request recognizes that dramatic changes have occurred in the veterans health care system over the past 3 years. Commitment to improving the quality of health care and to maintaining a standard of quality is a key strategic objective. VA has implemented a new national network management structure. Duplicative administrative functions and clinical services are being consolidated and geographically proximate facilities are being integrated. Resources are being shifted from inpatient care, which was specialty focused, to primary care delivered on an outpatient basis. It is the continuation of aggressive business-minded approaches coupled with a clear understanding of health care priorities that has allowed VHA to come so far so quickly and which will allow continued progress in 1999. In the 4 years to follow, VA is committed to its 2002 targets of reducing per-patient health care costs by 30 percent, providing quality health care to 20 percent more veterans and increasing the portion of the operating budget obtained from third party medical collections and other alternative revenue sources to 10 percent.

The allocation of medical care resources under the Veterans Equitable Resource Allocation (VERA) complies with Public Law 104–204, ensuring that veterans across the country have fair and equal access to VA health care. The Eligibility Reform Act, Public Law 104–262, affords a great opportunity to provide improved health care value to current users; expand the number of users; attract new revenue generating customers who bring insurance or Medicare payments with them; and, provide value to taxpayers.

This budget is a continuation of the Administration's policy, established last year to straight-line appropriation requirements through 2002 along with retention of expanded medical collections, anticipated passage of Medicare subvention, increased sharing revenues, and anticipated improved management efficiencies.

The Balanced Budget Act of 1997, Public Law 105–33, allows VA to retain all collections from third parties, copayments, per diems, and certain torts after June 30, 1997. These collections are deposited in the new Medical Care Collections Fund (MCCF) and beginning, October 1, 1997, were available for transfer to the Medical Care appropriation to remain available until expended. As estimated from individual network plans, MCCF will transfer collections of $677 million to the Medical Care account in 1999 to support veterans' health care, an increase of 13 percent.

VA is enhancing its customer focus. The department is measuring customer satisfaction and timeliness of services, and comparing our quality measures to community standards. VA is committed to the enhancement and system-wide standardization of quality. This commitment to improve health care quality in VA facilities is evident by moving additional staff to the Office of the Medical Inspector. This staff will conduct investigations, site visits, reviews, and other evaluations of quality of care issues.

The Administration supports enactment of a demonstration program in 1998 to test the feasibility of "Medicare subvention." This demonstration would permit VA to collect from Medicare for health care services provided to Medicare eligible, higher income veterans who do not have compensable disabilities. The advantages of this initiative are that: veterans will have more options in selecting a quality health care provider closer to where they reside; Medicare will be billed at costs that will be lower than the private sector; and VA will be able to employ underutilized capacity to provide health care to Medicare-eligible veterans. The Administration will work with Congress to seek passage of the Medicare subvention pilots this year.

To promote more efficient management of resources, VA proposes a change in the appropriation language that provides for a 2-year spending availability for up to 8.3 percent of resources made available. This percentage is equivalent to approximately 1 month of spending authority. This proposal promotes more rational spending aligned with business-type decisions, recognizes the need for management flexibility during this period of significant change, and reflects the GPRA concept of integrating budget decisions with planning.

SMOKING CESSATION

The Administration is requesting authorization of a 5-year smoking-cessation program for any honorably discharged veteran who began smoking in the military. Private providers, on a per capita basis, will deliver the program to the extent that resources are available. Once this program is authorized, the Administration will submit a budget amendment requesting an appropriation of $87 million for this new activity. A legislative proposal to authorize this program will be transmitted in the near future by the Administration. It is estimated that between 1.3 million and 2.6 million veterans would avail themselves of this valuable program over the next 5 years.

MEDICAL AND PROSTHETIC RESEARCH

Funding for Medical and Prosthetic Research is proposed as part of the Research Fund for America. This proposal highlights the Administration's priority to support needed and sustained investments in important Federal research programs on a deficit neutral basis. A total of $300 million will support over 1,795 high priority projects and VA research's general goal to meet the needs of the veterans and contribute to the Nation's knowledge about disease and disability. VA research will continue to focus on designated research areas that are of particular importance to our veteran patients including: Gulf War illnesses, aging, chronic disease, mental illness, substance abuse, and sensory loss.

The additional $28 million requested will allow continuation of ongoing programs and the start of major research initiatives that take advantage of VA's unique assets in clinical outcomes and rehabilitation research and our large integrated health care system. The first of the initiatives will establish a new Quality Enhancement Research Initiative (QUERI) to accomplish unprecedented collaboration between research, policy and performance, patient care and informatics (medical data). Target areas for this initiative include prevalent conditions, such as, cancer, prostate disease, depression and consequences of chronic spinal cord injury. Other initiatives will focus on medical therapy and surgical treatments of Parkinson's Disease; rehabilitative research in the areas of vision and hearing, aging with a disability, and prosthetics; and prevention of complications of Type II Diabetes Mellitus. In these areas, no other federally supported clinical or research entity can initiate or complete such critical and ambitious research activities on behalf of America's veterans.

MEDICAL CARE COLLECTIONS FUND

The enactment of Public Law 105–33 established the Medical Care Collections Fund (MCCF) and enabled VA to retain third party recoveries and other copayments from the provision of health care services and to use those resources to provide additional care to veterans. In an era of government efficiency, where fewer Federal dollars are being spent to provide more services effectively, MCCF will allow the VA to have the necessary flexibility to produce more funding through user fees while maintaining no increase in appropriated funds.

In 1999, VA expects to increase collections by 13 percent from the previous year to a total of $677 million. To improve recoveries, MCCF is focusing on consistent utilization of existing billing and collection software; better documentation of detailed clinical and cost data on insurance bills; implementation of billing rates based on reasonable charges; and continued development of automated recovery processes.

BENEFITS PROGRAMS

VA benefits programs provide assistance to veterans in recognition of their military service to their country and to aid their transition to civilian life. We provide compensation payments to veterans who suffered disabling illnesses or injuries as a result of military service and to survivors of those who died from service-connected causes; pension payments to needy disabled wartime veterans and the needy survivors of wartime veterans; education and training assistance to active duty personnel and to veterans to help them readjust to civilian life; vocational rehabilitation and counseling assistance to help disabled veterans obtain employment; credit as-

sistance to enable veterans and active duty personnel to purchase and retain homes; and life insurance. Delivery of these benefits must put veterans first, foster partnerships between VA and veterans and their service representatives, exploit advances in information technology and training, and place management focus on desired customer service improvement as well as efficiency.

The Administration is requesting $21.9 billion to support fiscal year 1999 compensation payments to 2.4 million veterans, 305,000 survivors and 2,000 children of Vietnam veterans who were born with spina bifida, and to support pension payments to 390,000 veterans and 283,000 survivors. The mandatory appropriation request includes the estimated cost of providing compensation for disabilities and deaths attributable to tobacco usage during military service estimated at about $17 billion over 5 years. VA's General Counsel has determined that under current law, service connection of a disability or death may be established if injury or disease resulted from tobacco use in the active military service. VA already has received and begun to adjudicate tobacco-related disability and death claims. The budget proposes legislation to disallow benefits for these disabilities or deaths attributable to diseases which began after military service and after any applicable presumptive period, and based solely on tobacco use during military service. Discretionary resources in the budget assume enactment of this legislation.

We are also proposing in this budget a 2.2 percent cost-of-living adjustment (COLA) to be paid to compensation beneficiaries, including spouses and children receiving Dependency and Indemnity (DIC) at an estimated cost of $287 million in fiscal year 1999. The COLA is based on the projected change in the Consumer Price Index. Proposed legislation is included to pay full disability compensation benefits to Filipino veterans and DIC to their survivors residing in the United States currently receiving these benefits at half the level that U.S. veteran counterparts receive. The cost of the proposal will be approximately $5 million a year, for a total of $25 million over 5 years.

This budget request also reflects a need for an additional $550 million for the fiscal year 1998 Compensation programs. The COLA that took effect December 1, 1997, is responsible for $303.4 million of this increase. The remainder is primarily attributable to higher than expected increases in average benefits, with an increase of veteran cases as well as the inception of compensation benefits and vocational training for children of Vietnam veterans who were born with spina bifida. Several factors contribute to the increase in the average benefit payments. Among them are (1) the processing of older cases as emphasis on reducing backlogs continues, which generates significant retroactive benefit payments; (2) increases in the number of service-connected disabilities claimed and granted to veterans; and (3) higher than expected average benefit payments to Vietnam and Gulf War veterans. These changes, along with estimated tobacco-related claims, result in the increase over the original budget estimate.

An appropriation of $1.2 billion is requested for the Readjustment Benefits program to provide education opportunities to veterans and eligible dependents and for various special assistance programs for disabled veterans. Education benefits will be provided for about 482,000 trainees in 1999, including 310,000 training under the Montgomery GI Bill. This request includes funds for the annual Consumer Price Index adjustment (estimated to be 2.0 percent effective October 1, 1998) for education programs. Legislation is proposed in this budget that will provide a 20 percent rate increase for the Montgomery GI Bill education program as well as for survivors' and dependents' education programs. This legislation will also propose additional funds in the amount of $100 million to be used for veterans training programs administered by the Department of Labor (DOL) under Part C of the Job Training Partnership Act. The estimated 5-year cost of the rate increase and the reimbursement for DOL training programs is $1.5 billion.

This budget proposes legislation to eliminate authority to finance the sale of acquired properties (establish vendee loans) to the public. VA acquires properties incident to the foreclosure of guaranteed loans. Properties can be sold for cash (borrowers obtain their own financing), but in 80 percent of the cases VA finances the sale by establishing a mortgage loan receivable. The establishment of vendee loans and their subsequent sale extends VA's liability for many years. By selling all properties on a cash basis, future expenses due to foreclosure of pooled vendee loans will be eliminated. If enacted, this proposal is estimated to save a total of $42.2 million over 5 years.

VA is also proposing legislation to charge lenders a fee of $25 for each VA loan that is guaranteed. The fees would be earmarked for use in developing, maintaining, and enhancing a VA Loan Information System that would interact with the information systems used by lenders to make and service VA-guaranteed loans. Amounts

collected will be deposited in the Supply Fund. VA may charge this fee for 4 years, not to exceed a total of $15 million.

Legislation is proposed as well to establish a reserve, from appropriated funds, to fully fund the "H" program (certain disabled veterans within the National Service Life Insurance program) and allow for the payments of future dividends. This legislation will require an initial transfer to the National Service Life Insurance fund of $4.5 million in 1999. The $4.5 million appropriation will be offset to the extent that annual appropriations to the Veterans Insurance and Indemnities appropriation to cover the costs associated with the "H" program will no longer be necessary.

GENERAL OPERATING EXPENSES

A total of $849.7 million is requested for the General Operating Expenses (GOE) appropriation in 1999. This funding level, combined with $160.2 million of administrative costs associated with VA's credit programs (funded in the loan program accounts under credit reform provisions), $11.3 million in reimbursements from the Compensation and Pensions account for costs associated with the implementation of the Omnibus Budget Reconciliation Act of 1990 as amended, and $38.9 million from insurance funds' excess revenues, together with other reimbursable authority, will provide $1.224 billion to support operations funded in the GOE account.

VETERANS BENEFITS ADMINISTRATION

The 1999 budget request for the Veterans Benefits Administration (VBA) of $651 million will support an average employment level of 11,221, which is 125 FTE's below the 1998 level. Much of the FTE decrease, however, relates to moving 80 FTE to the Franchise Fund for the Debt Collection Activity, and to reductions in the overhead, administrative support areas. Employment for direct processing of compensation and pensions claims increases by 140 FTE over 1998 within this total. This request, combined with $155.5 million associated with credit reform funding, will result in an increase of $52.5 million in appropriated discretionary funding over the 1998 level.

This budget reflects VBA's progress in implementing the requirements of the Government Performance and Results Act (GPRA). The integration of plans, resources and performance measures is constantly being improved. The 1999 budget reflects improvements over last year and will change further as our new team revises indicators and goals and establishes new ones.

There are several initiatives which, taken as a whole, comprise our new vision for processing compensation and pension (C&P) claims. Among those included in this request are the conversion to service centers, or the organizational and physical combination of Adjudication and Veterans Services Divisions at each of the 57 regional offices. Once completed, enhanced customer satisfaction as well as improved processing will follow. Funds are requested for the pre-discharge exam initiative that provides an outreach effort prior to separation from the service at major sites across the United States. This is a critical element of the reengineered C&P vision for the performance of claims development, disability examination, and preparation of rating decisions for service persons awaiting discharge from active duty.

This budget also reflects funding for finalization of the ongoing geographical consolidation of loan processing and loan service and claims functions from 45 offices to nine Regional Loan Centers (RLC's). Consolidation will result in improved services to veterans at reduced costs through greater efficiency and economies of scale. Service to lenders will improve through greater consistency and responsiveness. This consolidation is expected to generate nearly $43 million in savings through 2003. Funds are also included to deploy a new Property Management Local Area Network (PLAN) System. Real property acquired by VA as a result of guaranteed loans requires management and disposal. Automated information support will be provided to promote the rapid acquisition and sale of properties in order to maximize recovery of the government's expenditures.

Other funds are included to continue information technology initiatives that will support the needs of a reengineered environment. Education processing will benefit from completing installation of imaging technology into the VBA environment, reducing the dependency on paper documents and improving timeliness and accuracy of claims processing. Additionally, education systems will be modified to take full advantage of the efficiencies gained from recent technological advantages. Development of the payment processing system for the Montgomery GI Bill—Selected Reserve program will continue in 1999 and serve as the foundation for all future education redesign efforts. VBA will also replace the current system of manual processing with an expert system and replace the current system of delivering monthly benefit checks to veterans by mail with either a voucher to be drawn through elec-

tronic benefits transfer or electronic transfer of funds directly into their bank accounts.

Another initiative will improve timeliness and quality of service while reducing costs for the insurance program. Paperless processing in this business line will require installation of an imaging system to provide electronic storage of insurance records and on-line access. Creation of a large database of imaged beneficiary forms will allow the retirement of almost 2.5 million insurance folders.

NATIONAL CEMETERY SYSTEM

The National Cemetery System (NCS) proposes a budget of $92 million. This represents an increase of $7.8 million over the 1998 level. The funding increase over last year's level is for: (1) workload increases at the Tahoma National Cemetery in the Seattle, Washington, area; (2) the continued activation of three new national cemeteries in Chicago, IL; Dallas, TX; and Saratoga, NY; (3) the partial activation of a new national cemetery in the Cleveland, OH area; (4) the increased cost of the Integrated Data Communication Utility (IDCU) system conversion; and (5) for inflation and employee payroll costs.

GENERAL ADMINISTRATION

A total of $199 million is requested for the Office of the Secretary, five Assistant Secretaries and three staff offices. This request, combined with $4.7 million associated with credit reform funding, will result in a total resource level of $203.8 million.

EQUAL EMPLOYMENT OPPORTUNITY

During 1998, VA has restructured its Equal Employment Opportunity (EEO) complaint process. The 1999 budget reflects the creation of two new offices to handle processing and adjudication of EEO complaints. The Office of Resolution Management (ORM) was created within the Office of Human Resources and Administration. In addition, the Office of Employment Discrimination Complaint Adjudication (OEDCA) was formed. This function will be located in the Office of the Secretary.

For 1999, funding for the new offices will be handled entirely on a reimbursable basis except for that portion of their operations performed for staff offices within the General Administration activity of the GOE appropriation in which ORM and OEDCA operate. General Administration funds that supported the previous Equal Employment Opportunity process for VHA, VBA, NCS and the Office of the Inspector General have been moved to their respective budgets for 1999. Reimbursements are calculated on a per case basis.

SHARED SERVICE CENTER

The 1999 budget reflects the phased expansion of the Shared Service Center (SSC) to encompass additional VA employees and sites. The SSC will centralize payroll processing and personnel information. For 1999, the SSC is requesting $26.6 million in reimbursement authority from other VA organizations.

BOARD OF VETERANS' APPEALS

The Board of Veterans' Appeals (BVA) will continue administrative productivity enhancement initiatives involving both automated and manual procedural changes. In 1998 and continuing into 1999, BVA expects to increase electronic exchanges of information with VBA and thus improve data currency and decrease administrative handling. BVA continues to work to reduce the time it takes veterans to receive decisions on appeals. A total of $40 million is requested for the Board in 1999.

POLICY AND PLANNING

The Office of Policy and Planning is requesting $11 million in 1999. Funding is provided for program evaluations ($2 million in 1999), establishment of an Office of the Chief Actuary ($2 million in 1999), and the National Survey of Veterans II ($1 million in 1999). This request builds upon funds provided by Congress in 1998 for these activities.

OFFICE OF GENERAL COUNSEL

The Office of General Counsel (OGC) is requesting $38.8 million in budget authority to support its operations in 1999. The 1999 request is $2.2 million above the 1998 current estimate. These additional funds will allow the General Counsel to

maintain its current level of operations plus allow it to address the growing backlog at the Court of Veterans Appeals and field offices.

OFFICE OF MANAGEMENT

The Assistant Secretary for Management is requesting $49.4 million in budget authority in 1999. This request includes $900 thousand to develop a replacement strategy for the VACO Campus LAN. This strategy will focus on immediate short-term solutions to keep the system viable and long-term solutions that will allow the VACO community to have a dependable, reliable, and fully functional LAN network.

OFFICE OF INSPECTOR GENERAL

The 1999 request of $32.7 million includes funding for the Inspector General to continue to focus its efforts on high pay-off areas deemed most vulnerable to fraud, waste, inefficiency, and mandatory coverage areas such as audits of VA's financial statements.

CAPITAL PLANNING

With the recognition of the need to improve its capital planning process, VA has initiated a process to ensure that major capital investments are based on good business decisions, tie to Departmental strategies and goals, and represent the best return to the taxpayer. Representatives from top management, in the form of the Capital Investment Board (CIB), make strategic decisions about capital expenditures. This is an evolving process that also fosters a "One-VA" approach to the use of capital funds by facilitating dialogue about major construction projects, leases, information technology, and major equipment purchases across VA management.

CONSTRUCTION, MAJOR PROJECTS

A total of $97 million is requested for the Major Construction program. The Major Construction request would fund a clinical consolidation/seismic project at Long Beach, CA, a seismic corrections project at San Juan, PR, and columbarium projects at Ft. Rosecrans (California) and Florida National Cemeteries. Additional funds are requested to remove asbestos from VA-owned buildings and to support advanced planning and design activities.

CONSTRUCTION, MINOR PROJECTS

A total of $141 million is requested for the fiscal year 1999 Minor Construction program. The request includes $123 million for Veterans Health Administration projects. Of this amount, $68.9 million is targeted for the outpatient care and support category. This will enable VA to continue its commitment to provide primary and preventive care. Additionally, $32.5 million is for inpatient care and support. This category includes projects that improve the patient environment, such as providing private and semi-private rooms. A total of $14 million is also included for the National Cemetery System. Funds in the amount of $2.4 million are requested for the Veterans Benefits Administration. Staff Office and Emergency projects are provided $1.6 million.

PARKING REVOLVING FUND

VA is requesting authorization of $13 million for a parking garage in Denver, CO. No additional funding is required as this project would be funded from unobligated balances currently available.

GRANTS FOR THE CONSTRUCTION OF STATE EXTENDED CARE FACILITIES

The fiscal year 1999 request of $37 million for the Grants for the Construction of State Extended Care Facilities will provide funding to assist States to establish new, or renovate existing nursing homes and domiciliaries.

GRANTS FOR THE CONSTRUCTION OF STATE VETERANS CEMETERIES

The fiscal year 1999 request of $10 million for the Grants for the Construction of State Veterans Cemeteries will provide funding to assist States to establish, expand, or improve State veterans cemeteries. Legislation is again proposed to increase the maximum Federal share of the costs of construction from 50 to 100 percent.

CLOSING

Mr. Chairman, the challenges before us are great but our dedication and commitment to ensuring the best possible care and service to our Nation's veterans are greater. We owe our veterans the best service we can provide. I look forward to working with you and the members of this Committee to meet these challenges.

MEDICAL COLLECTIONS

Senator BOND. Thank you very much, Mr. Secretary.

Since Senator Mikulski is on a tight time schedule, I will defer my questions and allow her to take up such time as you need.

Senator MIKULSKI. Thank you, Mr. Chairman. I am happy to go by the 5-minute rule.

Mr. West, let us start off with the question about the medical care cost and the collections in the Medicare subvention because really one of the anchor services of the VA is its medical care, and then the need to have reliable revenue streams both from appropriations, but also the private collections.

Could you tell us what are your plans and what are the strategies and the methodologies to use to increase the collections from private insurance? Do you have a specific plan, specific benchmarks, and what are your thoughts on increasing those collections?

Mr. WEST. I think we do and I will ask Dr. Kizer, the Under Secretary for Health, to provide some specifics about it.

I would observe before that, if I might, Senator, there has been some concern expressed over the rate of collections. I think it is a little early to make that judgment. The only numbers we have available to us are for the first quarter of the fiscal year. We are just about to end the second quarter. So, I think next month sometime, we will have one-half a year. I think that Dr. Kizer would be more comfortable to see where we are at the end of the third quarter. But I am not so sure that there is reason to be pessimistic just yet. There is reason to be careful, to pay attention, and as you said, to examine exactly what we are doing to ensure our collections.

I think our experience on collections in just that first quarter runs roughly like last year's. I think I heard a few days ago Dr. Kizer say——

Senator MIKULSKI. I am going to have to leave really very quickly. Could we hear the methodology? I appreciate those comments, sir.

Dr. KIZER. Senator Mikulski, as you know, this year we are looking at about 4.4 percent of our operating budget to come from nonappropriated funds and next year increasing that to about 4.6 percent.

As you note, and I think understand as well, before this year the importance placed on collection and having the infrastructure in place was not there. There are one-half a dozen generic things that are specifically being done, and each of those have parts to them. We are focusing particularly on better insurance identification, on better collection processes, better claims processing, better utilization management, also on setting of reasonable rates, a new authorization that was provided that will help in this regard as well.

Now, we have recently disseminated a document that provides more specific guidance in this regard, and I think that it would be helpful to perhaps provide you with a copy of that and you can see

in much more detail some of the specific things that are going to be done in this regard.

[The information follows:]

EXECUTIVE SUMMARY

BACKGROUND

The Department of Veterans Affairs (VA) faces the same challenges in the administration of its healthcare system of 170 hospitals and 400 clinics as do other Federal agencies on the journey to reinvention. Private sector health systems, both for-profit and not-for-profit, face similar challenges in trying to manage the industry's formidable changes precipitated by managed care, cost containment, and new patterns of care. An abundance of dilemmas confront everyone: declining revenues, cost controls, eroding customer bases, quality mandates, reorganizations, mergers and outsourcing, and demands for adopting best business practices. All of these challenges coincide with stakeholder imperatives for these organizations to become more business-like and perform using measurable industry standards.

In the face of increasing pressures to reduce costs, enhance quality and implement managed care, VA has developed a five-year plan called 30/20/10. This calls for a reduction in per-patient cost by 30 percent; an increase in unique patients served by 20 percent; and an increase in nonappropriated revenues by 10 percent of total operations. VA intends to achieve the latter goal through its revenue cycle program, formerly known as Medical Care Cost Recovery (MCCR).

The Omnibus Budget and Reconciliation Act of 1990 established and funded the MCCR program as a special apparatus to identify, bill and collect for the cost of providing non-service connected care (NSC) to veterans. Collections, minus the expenses charged back to MCCR, were returned to the U.S. Treasury. Through subsequent legislation relating to program coverage and scope, MCCR has expanded to a nationwide force of 2,700 personnel. Despite MCCR's investments in technology, program policy and procedure, software development, and training, hospitals have not achieved the performance levels anticipated. After growing to a peak of $581 million in 1995, collections have declined to $563 million in 1996 and $524 million in 1997. Much of this decline can be attributed to a decrease in the VA's inpatient workload, changes in insurance membership (HMO & PPO penetration), and changes in insurance companies' payment methods.

STUDY REQUIREMENTS

Concern about the erosion of MCCR performance, as well as anxiety about VA's ability to generate a 10 percent non-appropriated revenue stream, crested in September 1997. At this time the VHA CFO determined the need for and contracted with Coopers & Lybrand, LLP (C&L), a subcontractor to Abt Associates, to conduct a major management review of MCCR. The scope of this review called for C&L to document actual performance, account for the way MCCR funds were expended, and benchmark VA performance with best practices in the private sector (both for-profit and not-for-profit hospital systems) and in high-performing VA hospitals. VA requested C&L to identify better ways to allocate resources, perform work processes, deploy technology and collect money due to the VA. Finally, it asked C&L to determine if there were meaningful opportunities to contract elements of the revenue cycle.

The request for this study came during a landmark period. With the passage of the Balanced Budget Act in mid 1997, Congress gave VA permission for VISN's to retain MCCR collections for enhancing the quality of care to veterans. This new incentive has spurred a great deal of interest in the program and many VA officials and staff contacted during the course of this study stated that they will use its findings and best practices as guides for their reengineering plans.

STUDY SCOPE AND METHODOLOGY

Extensive Review of VA Operations

Coopers & Lybrand conducted the study from September 1997 to January 1998. We followed an intensive schedule during which study teams conducted MCCR program reviews at 24 VA medical centers. The teams investigated all aspects of facility operations. Specifically, we: interviewed key hospital staff, performed process mapping to obtain work volumes, cycle times and process costs, reviewed internal MCCR diagnostic reports, observed veteran registration interviews, administered surveys to MCCR staff, reviewed accounting records, and presented our observations to directors, chiefs of staff, chief financial officers and MCCR coordinators. We also

conducted numerous interviews with Veteran Integrated Service Network (VISN) directors and their staffs, VA central office officials associated with MCCR operations, regional counsel, field directors supporting operations (e.g., Austin Automation Center, St. Paul Debt Collection Center) and VA system development contractors.

Private Sector Benchmarking

Concurrently, C&L conducted a thorough benchmarking study of nearly 25 private sector organizations. These included private, multi-hospital hospital systems, national hospital chains, and academic medical centers, some of which are affiliated with VA hospitals. We collected data from industry associations, such as the Hospital Accounts Receivable Association (HARA) and the Hospital Financial Management Association (HFMA). Finally, we visited with and interviewed numerous private sector firms in the hospital billing and collections industry, such as Medaphis, NEIC and PAYCO.

Characteristics Unique to the VA

Although the steps of the revenue cycle process are generally the same in both the private sector and VA, many unique VA characteristics must be considered when making performance comparisons because they inhibit performance in the revenue cycle. While some of these characteristics exist as a matter of national preference and VA's mission, other characteristics appear to exist as a matter of VA internal policy. Many of these inhibitors can and should be changed if national decision makers, veterans, and the public are asking VA to perform more like a business in both clinical and administrative areas.

Patient Mix and Demographics.—Many patients are high-risk and elderly. This, coupled with the fact that VA has a myriad of rules concerning eligibility for services, makes patient processing more time-consuming and error-prone than in the private sector.

Inappropriate Care.—As a paternalistic provider of care, much of VA's healthcare is inappropriate and overlooked by utilization review (UR). In a 1996 internal study, nearly 40 percent of inpatient care exceeds Interqual's length-of-stay or care setting criteria. According to policy terms, third party payers do not reimburse for such care.

Lack of Incentives.—Neither veterans, clinicians or administrative staff have strong incentives to cooperate in the 1st or 3rd party billing processes because VA's future did not depend on it. The revenue cycle has generally been a low priority operation, despite the efforts of many dedicated staff.

Current Operations.—Since VA has historically not had to bill for its services, it lacks the complete infrastructure and procedures for doing so. Although improvements are being made, the current system of per diem billing does not comply with industry standards and is often a basis for out-of-hand denials by insurance companies.

Payer Mix.—Two major payers, Medicare and Medicaid, account for about 54 percent of most private hospital revenues. Thus, hospitals have standardized processes that keep costs down and increase collection effectiveness because these payers meet their obligations and pay on time. In contrast, VA hospitals have no predominant, large payers and must bill hundreds of different insurance companies.

Medicare Reimbursement.—By law VA cannot bill Medicare for care provided to veterans. This deprives VA of revenue and also complicates the billing process because it must bill "medigap" policies without the benefit of an explanation of benefits (EOB) from Medicare. VA thus often bills for the entire amount, distorting the residual liability of medigap payers, who typically only pay a maximum of 20 percent of the total bill. Therefore, these payers often refuse to pay, and sometimes sue, VA over this issue.

Investment Costs.—VA is a relative newcomer to the billing and collections business and is still making large investments in program design, information systems and training. This accounts for about 20 percent of current operational costs.

FINDINGS

By most industry standards, as well as VA's internal standards, VA hospitals fall short of the optimum performance demonstrated by for-profit and not-for-profit hospitals. Based on VA's fiscal year 1997 collection levels, effectiveness and productivity data, program costs, and management practices, only a few hospitals succeed. Even these, however, have inconsistent performance across all billing and collections processes. We measured VA's performance using primary and secondary benchmarks.

Primary Benchmarks

Primary benchmarks are indicators of how well the revenue cycle supports the basic mission of the organization. The primary revenue cycle benchmarks used in this study capture the private sector's fundamental precepts: they measure outcomes of revenue processes critical to organizational success and survival in the healthcare industry. For the VA, they measure how well it bills for NSC care and recovers its costs. Success depends on the performance of all hospital departments, not just the MCCR unit. Other factors critically impact success, such as VA-wide policies and procedures concerning veteran's rights, appropriateness of care, performance incentives and fee schedules.

Collections.—The $525m in collections is 3 percent of the VA's hospital operating budget. This is low considering that 85 percent of the workload is for NSC care; also, this is a third of the 30/20/10 revenue goal. Although we recognize that the VA only bills a percentage of its total workload, we found individual university hospitals and small, multi-hospital systems in Louisiana, Missouri and Virginia that collect more that $525m.

Days in Accounts Receivable (AR).—The most prevalent revenue measure used by the healthcare industry is days in AR. The industry average is 60 days, while VA has its money tied up for 244 days. Much of this is due to lack of aggressive follow-up on denial or partial payments, as well as the fact that many claims are tied up in litigation with some major payers.

AR>90 Days.—The secondary revenue measure used by the healthcare industry is the percentage of AR older than 90 days. Industry limits this to 28 percent while VA is at 92 percent. Again, some of the VA's outstanding AR is currently tied up in litigation.

Net Collections.—This measures collections as a percentage of total hospital accumulated charges, which are different from billed amounts because of managed care and other discounts. Industry averages 62 percent while VA is at 33 percent, partially because it has routinely overbilled medigap payers, as explained below.

Secondary Benchmarks

Secondary benchmarks are indicators of how well the revenue cycle performs at the process level. For the VA, they measure how well the hospital performs intake, coding, billing and collections activities. The MCCR unit is responsible for performance, but success is modulated by the quality of data provided by hospital registration and clinical departments. Most of these measures are unique to VA and are not widely used in the private sector because of its bottom-line emphasis on days in AR.

Insurance Identified.—Systemwide, VA identifies 16 percent of its new patients as having billable insurance, with a range from 8 percent to 36 percent. The percent for all patients is lower. This severely limits collections potential at the very beginning of the revenue cycle and is one of the most serious process breakdowns in the program.

Bill Lag Time.—It takes the industry an average of 9 days from the date of care to send a bill to payers, while this process takes the VA 83 days.

Patient File Closeout.—Clinicians and medical staff in the private sector close patient treatment files within 5 days while VA takes 41 days.

Collections/FTE.—Industry collects $2–3 million per FTE associated with the revenue cycle, while VA collects between $150–200 thousand.

Cost Effectiveness

The cost of operating the revenue cycle program in VA is presently quite high. It costs industry $.023 to collect one dollar of revenue while VA's fully loaded cost is $.34. Further analysis shows the variation in cost-to-collect:

Inpatient Bills:	
Means Test	$.10
Per Diem	.41
Third Party	.07
Outpatient Bills:	
Means Test	.62
Rx Copay	1.35
Third Party	.48

VA's cost ratio is high due to process inefficiencies, significant errors and rework, diseconomies of scale (some units have as few as 10 FTE's assigned to MCCR), and ineffective use of available automation. Of course, the average amount collected per bill also greatly impacts the cost-to-collect ratio.

SUMMARY AND CONCLUSIONS

All of the study's quantitative and qualitative findings point to the conclusion that there are certain, critical attributes that distinguish thriving, high performing organizations from the stragglers. We found recurring characteristics in successful revenue operations in both the private sector and VA, which are categorized into five critical success factors (CSF).

1. Leadership

Top management of successful organizations lead the process and are a source of vision, innovation and culture change. Revenue directors are hired for their new ideas and leadership traits, and are often major players in helping health care organizations maintain cash flow in today's turbulent and competitive market. In the VA fewer than 40 percent of senior executives were involved in or appeared committed to revenue cycle operations. We believe this should improve because of the new incentives provided by the Balanced Budget Act.

2. Organization Structure

Successful operations have cross-functional, centrally managed organizations (called the "business model") that enhance quality results by integrating sub processes into seamless operations. These organizations have a single reporting structure across the hospital that reduces instances of re-work, reduces fragmentation, and increases effective communication. A single reporting organization was in place at only 25 percent of the VA sites we visited, thereby hindering performance (e.g., 20 percent rework in handoffs between departments) and clouding accountability.

3. Accountability

High-performing operations track and measure the people, activities and results of revenue processes through systems of internal control. Revenue is everyone's responsibility, as measured via frequent reports and benchmarks. In VA, the revenue cycle is viewed as MCCR's responsibility only, there is limited compliance with standards outside the MCCR unit, and few others in the hospital are held accountable. The Diagnostic Measurement System is used effectively by only 50 percent of the 24 sites we visited.

4. Human Resource Management

Best practice revenue cycle organizations significantly leverage human resources through intensive training, averaging 3–4 training sessions yearly, and placing a priority on professional certifications such as from the American Guild of Patient Accounting Managers (AGPAM). Nearly 25 percent have incentive compensation programs for employees. Aside from periodic nationally-sponsored training, VA follows few of these practices.

5. Technology

Technology drives the private sector's exemplary revenue cycle programs. It reduces costs, errors and cycle times, and also helps increase collections through better communications and data exchange with payers. Today, healthcare success depends on the quality of information systems. Many private sector organizations have consolidated revenue organizations just to take advantage of integrated information systems. Only about 60 percent of VA hospitals are taking full advantage of available revenue cycle technology. VA has made major investments in software, however, these tools must be better utilized. Furthermore, the VA must continue the integration of separate systems and the development of the Universal Billing System.

COMPELLING CASE FOR CHANGE

Transformational (Leadership) Changes

We believe that there is compelling evidence for VA to make major, transformational changes to its revenue cycle program. These changes are required in leadership, organization structure, compliance, attitudes toward revenue collection, and outsourcing of certain functions. Responsibility for these transformational changes lies equally with the VHA Chief of Staff and Chief Financial Officer, network directors and hospital directors.

Transactional (Process) Changes

Concurrent with the transformational changes, VA needs to adopt best business practices at the transactional, or process, level of revenue cycle operations. VA recognizes several of these requirements and has launched improvement initiatives, such as universal billing, ambulatory data capture, veterans enrollment system and

the Medicare remittance advice project. Other initiatives need to focus on new techniques for insurance identification and aggressive AR management. Responsibility for these transactional changes lies with the Revenue Cycle Program Office, VHA CIO, VISN directors, and hospital directors.

MOST EFFICIENT ORGANIZATION

Year 2000 Features

This report describes a most efficient organization (MEO) that will affect the above changes by the year 2000. Major features of the MEO consist of:

—Adoption of a business model organization structure at each hospital
—Process ownership across medical, administrative and business units
—VISN-wide consolidation and quality control to strengthen crucial "front end" processes, such as preregistration, insurance verification and elements of utilization review (UR)
—Centralization, internal franchising or contracting of many "back end" processes, such as electronic billing, third party follow-up and collections enforcement
—Leverage of process improvements currently underway
—Transition from a cost recovery to a revenue generation concept of operations

Costs and Benefits

We conducted a cost-benefit analysis to determine the benefits and risks associated with the Year 2000 MEO. The transformational changes will have a positive, wholesale impact on the way VA operates its business and serves the health needs of veterans. For example, the capture of clinical data for billing purposes also provides valuable information on treatment patterns and medical outcomes. Over the next three years these changes will help VA achieve the 30/20/10 goal for its healthcare system.

Transactional changes will generate benefits through reductions in process costs, cycle times and rework, as well as lead to improved levels of accuracy and customer satisfaction. We determined the benefits of focusing on key "leverage points," such as (1) identifying billable insurance; (2) producing accurate bills; and (3) reducing days AR outstanding. From improvements in these three areas alone, VA can dramatically improve its collections nationwide by nearly $200 million.

As with all major change, there are some risks of implementation, such as those associated with restructuring, technology development, and timing. However, given the magnitude of the revenues at stake, as well as VA's lukewarm performance in the process, the potential risks are vastly outweighed by the rewards. VA can mitigate these risks through the proper resolve to succeed.

RECOMMENDATIONS

Coopers & Lybrand recommends that VA pursue a three-phased program to remedy its lagging revenue cycle process. Known as CPR, the program is an effective approach for prioritizing corrective actions, leveraging resources and addressing all aspects of the revenue cycle process.

1. *Cash*.—With VISN sponsorship, immediately launch at each hospital a 6-month blitz on existing receivables (for services already billed) as well as a concentration on UR and charge capture (for services provided but improperly billed or not billed at all). Collect funds due VA and prevent further revenue losses. This will help VA accomplish its 1998 collection goal.

2. *Process Compliance*.—Through VISN leadership and action, immediately take corrective actions to bring hospital programs into full compliance with VHA revenue cycle guidelines and regulations, as well as with established best practices such as those identified in this report. Also begin VISN-level consolidation of applicable front-end processes. This will help standardize operations, reduce costs, and strengthen all processes in the revenue cycle.

3. *Redesign*.—VHA should continue the development of several consolidated applications, systems and operations. Attention should also be focused on removing some of the policy and institutional barriers that inhibit optimum performance. Depending on the results of phase 2, move toward greater reliance on contractors to perform back-end processes. This will help VA realize MEO status by the Year 2000.

We recommend that VA require the full commitment and participation of VISN and hospital executives in CPR. VA can no longer afford to abdicate revenue responsibilities to collection units alone. Revenue performance is everyone's business—in the same manner that delivering quality healthcare to the veteran is everyone's business. VA leaders should make the same investments in leadership, innovation,

human capital and technology for business functions that they have for clinical functions.

SECTION 1: INTRODUCTION

A. BACKGROUND

The Veterans Health Administration, Department of Veterans Affairs (VA) is a $17 billion health care system. The VA medical network of hospitals and outpatient centers consists of over 50,000 operating beds, and treated over 800,000 inpatients and almost 33 million outpatients in fiscal year 1997. Since 1986, the VA has been authorized to recover from veterans and private health insurers a portion of the costs VA incurs to provide health care services to veterans with non-service-connected (NSC) disabilities. Through the Medical Care Cost Recovery (MCCR) program, VA has launched several improvement initiatives entailing process design, tools development, technology and training. There have also been several MCCR studies, such as the 1996 Birch & Davis MCCR Cost-to-Collect Study and the 1997 GAO report.

Despite this activity, VA has had limited success in collections, partially due to the fact that recovered funds were returned to the U.S. Treasury (minus the MCCR's operating costs). As part of the Balanced Budget Act of 1997, however, the VHA was authorized to retain revenues collected after June 30, 1997. The VA believes that this new incentive will spur improvements at the VISN and medical center levels. This, along with several new initiatives such as Universal Billing, Medicare Remittance Advice, Reasonable Charges, and the Enrollment System, will enhance the cost recovery process.

In fiscal year 1996, VHA sought recovery of about $1.6 billion of its costs but only recovered 35 per cent of the billed amount, or $563 million. Not only was this a low dollar amount, it also represented a decrease of more than 5 percent under the previous year's collections (see Figure 1–1, MCCR Recoveries). This slide in collections continued in fiscal year 1997 to $524 million.

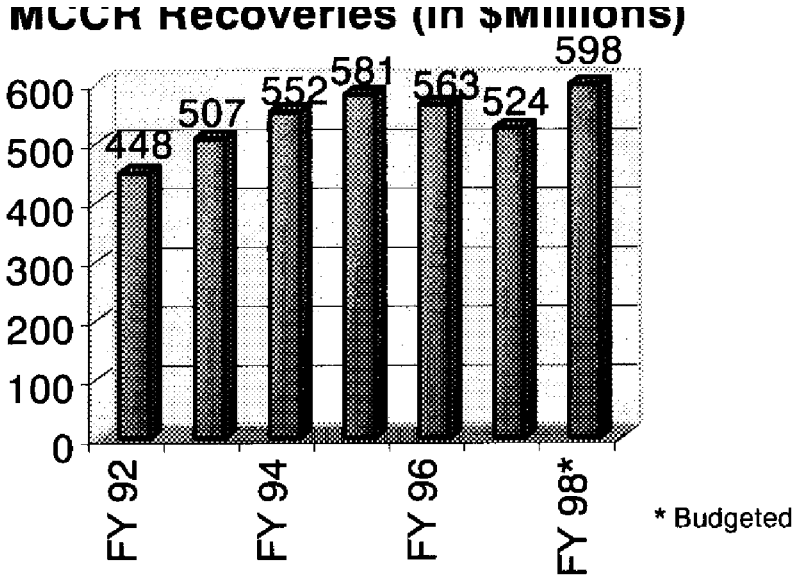


Figure 1-1

Some of this declining performance in the revenue cycle process (as the billing and collections function is known in the private sector) is because of the VA's shift from inpatient to outpatient care settings. However, much of the erosion is because many of the VA's 150 medical centers have yet to implement revenue cycle programs. While some hospitals have exemplary programs, none have consistently good performance across all processes.

The VA plans to continue with its cost recovery or revenue cycle program. It characterizes this plan to retain insurance payments and other revenue as the first step in a five-year "30/20/10" program. Under this program, the VA will reduce its per-patient costs by 30 percent, increase patients served by 20 percent, and finance 10 percent of its expenditures using non-appropriated revenues by the year 2002. The bulk of these non-appropriated revenues (56 percent in fiscal year 2002) will come from private health insurance recoveries. It is anticipated that should VA receive Medicare subvention, a large portion of additional revenues will be from Medicare (43 percent). Additional dollars will be from first party co-payment and from sharing agreements with DOD and local hospitals.

In fiscal year 1997, MCCR collections comprised 2.9 percent of the total medical center operating budgets. If process improvements are implemented it is estimated that MCCR collections will generate at least 4 percent of the operating budget by 1999. (Figure 1.2)

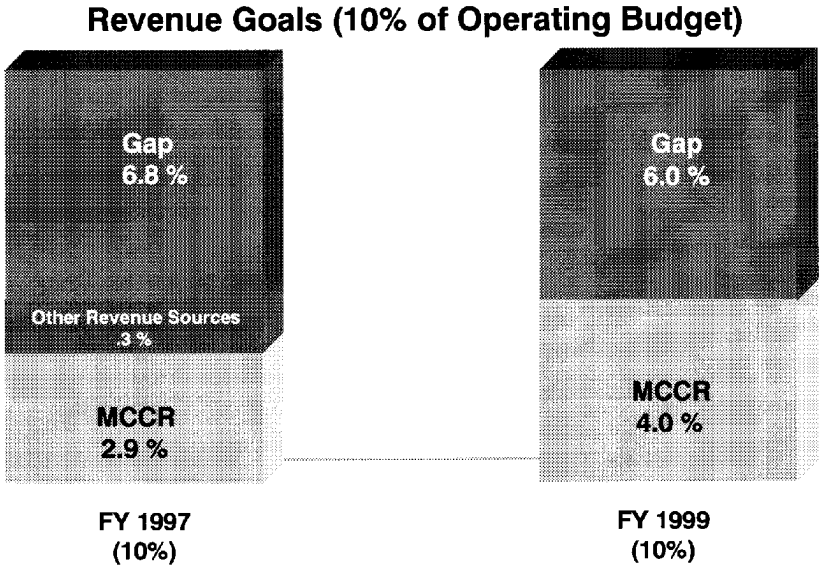


Figure 1.2

Over the next five years, VA's healthcare appropriation will remain fixed at $17 billion per year. As such, the VA's primary option for increasing its revenues must come from an increase in third-party reimbursements and anticipated Medicare subvention, a goal estimated at $1.73 billion in 2002. In reality, this goal may be very difficult to attain. If VA is to be granted Medicare subvention it must make considerable improvements to its revenue cycle processes in order to be Medicare compliant. Additionally, there are several factors that help explain the current revenue decreases and the downward trend. These factors include:

The decline and aging of the veteran population. This means that VA must serve a greater proportion of this declining population to maintain its current revenue projections. In addition, more VAMC users will have secondary, rather than primary, health insurance coverage in the future.

The changing nature of the healthcare industry, which has been moving from traditional fee-for-service plans to managed care. Because the VA is not an HMO preferred provider, veterans' increased enrollment in HMO's and other managed care plans reduces the number of veterans covered by fee-for-service insurance from which VHA can expect to recover.

Payer mix. Figure 1–3 illustrates the payer mix obstacle. As the figure shows, the private sector (for-profit and not-for-profit) can collect revenue from many large sources unavailable to the VA, including Medicare (19–41 percent), and Medicaid (13–35 percent). This leaves the private sector dependent on commercial sources for a small part of its reimbursement, while the VA must try to make up 79 percent of its reimbursement from these sources. While the average private hospital has a

concentration of very large payers (thereby increasing collections and reducing costs of operations) the typical VA hospital must bill dozens upon dozens of small payers.

Figure 1–3

	Percent
FOR-PROFIT:	
Medicare	41
Medicaid	13
Other	4
Private	36
Self-pay	6
VHA:	
First party	13
Sharing	7
Other	1
Third party/private	79
NOT-FOR-PROFIT:	
Medicare	19
Medicaid	35
Other	8
Private	16
Self-pay	22

Shifts in care from inpatient to outpatient settings, that could reduce private insurance recoveries and increase recovery costs because of the greater number of small bills. For the VA, this continuing decline in the number of inpatient days provided and a corresponding increase in the number of outpatient clinic visits (Figure 1–4) means higher workloads with smaller recoveries. (Under the VA's current manual coding process, it spends almost eight times the amount to collect a dollar from outpatient billing than it does on inpatient billing (i.e., $0.65 vs. $0.08). VA must also generate approximately 20 outpatient bills to produce the equivalent recovery of a single inpatient bill. Charges are also fixed fee; this means they are not itemized and do not reflect "reasonable" charges.

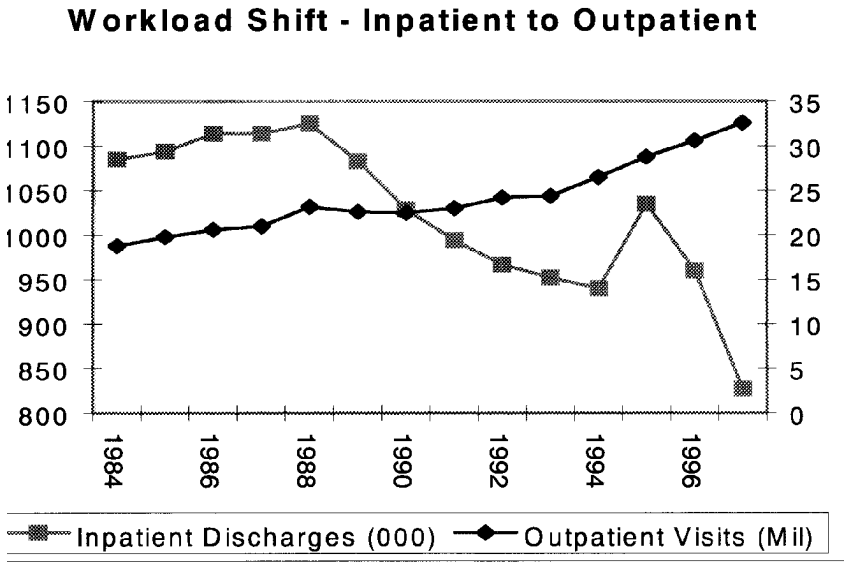


Figure 1-4

The trend continued in 1997 with 826,846 inpatient visits compared to 32,648,000 outpatient visits.

B. STUDY SCOPE AND ORGANIZATION

In August 1997, VA tasked Coopers & Lybrand, L.L.P., a subcontractor to Abt Associates, to perform a review and cost analysis of the MCCR program. Specifically, VA requested C&L to review and analyze all performance and cost aspects of the MCCR process, including insurance identification, UR/clinical charge capture, billing, and collection for NSC care. C&L was also asked to assess and benchmark the VA's performance to other similar activities of healthcare organizations and contractors in the private sector.

The study scope encompasses several fundamental elements of VA's revenue cycle process:

—Process analysis and business process reengineering to enhance VA's revenue cycle collections

—Program reconfiguration to design a "Most Efficient Organization" via process consolidations, organizational realignment, and franchising and/or outsourcing critical processes

—Benchmarking to base the analysis on best practices in both the VA and private sector, including not-for-profit hospitals

—Activity based costing (ABC) to determine the pattern of expenditures and to plan the optimum allocation of future resources

—Cost-benefit analysis to validate the effectiveness and payback of the recommended new operation

—Action planning to establish implementation priorities and timelines.

The remainder of this report is organized as follows:

Section 2, Background, presents a brief overview of the MCCR program, including its legislative background, an overview of processing, and some of the obstacles in making a comparison between the VA and the private sector.

Section 3, Methodology, describes the techniques used by C&L in performing this review and analysis.

Section 4, VA Study Site Profile, presents the results of our research from the 24 site visits.

Section 5, Best Business Practices, addresses the best practices observed in both the VA and the private sector, describes five Critical Success Factors observed at the most successful organizations, and explains areas where the VA and the private sector processes and practices are fundamentally different.

Section 6, Proposed Reorganization and Cost Savings, describes the VA revenue cycle optimal configuration. We also provide a cost benefit analysis of this reorganization.

Section 7, Recommended Next Steps, identifies short-term and strategic action plans using an approach called CPR—Cash, Process compliance and program Restructuring.

SECTION 2: PROGRAM OVERVIEW

A. THE REVENUE PROCESS

The revenue cycle is the process by which health care providers bill first party (the patient) or third-party (insurance companies, or sometimes, managed care organizations) payers for the reimbursement of medical services. The VA calls its program Medical Care Cost Recovery (MCCR). Whether in the VA or in the private sector, the goal is to collect the maximum payments in the shortest time for the lowest cost. Successful completion of this task requires: Complete and accurate patient and payer information; Appropriate diagnosis and coding; Complete and accurate billing; Quick turnaround in payment; and Timely reconciliation of appeals.

The revenue cycle process must meet the demands of at least five stakeholders:

—Patients expect to receive accurate and timely bills for the medical care they have received.

—Payers (first party—the patients and third party—the insurance companies) need complete and accurate billing information to fully reimburse for medical care.

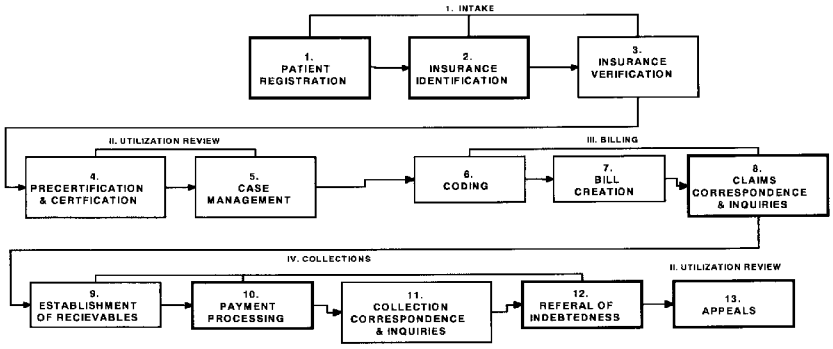
—Physicians need access to accurate patient information to provide proper medical diagnosis and treatment.

—Cost recovery personnel need accurate patient and insurance information, appropriate diagnosis and coding, "state of the art" technology, and stakeholder support to maximize collections in a timely manner.

—Hospital administrators, e.g., directors, associate directors and CFO's, need to maximize collections to support hospital operations and have accurate performance measurements to monitor these collections.

The revenue cycle process is essentially the same in VA health care facilities as in the private sector. In each type of facility, the cost recovery process is generally composed of several sub-processes, as illustrated in the figure below:

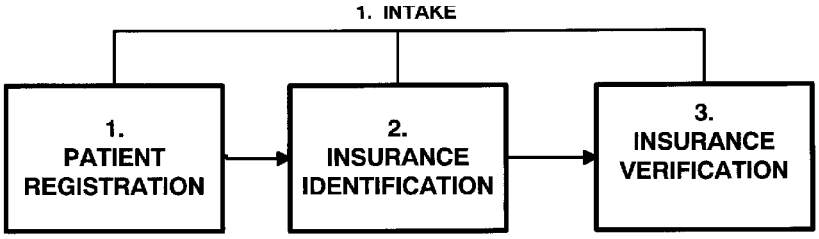
REVENUE CYCLE



The four major processing segments are Intake, Utilization Review, Billing, and Collections. We describe each as well as several characteristics of best practices in the following paragraphs.

1. Intake

Intake consists of three sub-processes: patient registration, insurance identification, and insurance verification.



The entire process depends on the quality of the information provided during intake. This information includes: Name, Address, Social Security Number, Telephone number, Date of birth, Employer, Name of insurance carrier, policy number, and expiration date of policy, Next of kin, Allergies or other conditions that might affect treatment and care, Spouse's and dependents' names, and Name of spouse's insurance carrier, policy number, and expiration date of policy.

Accurate intake processing is critical, because it influences the success of every other phase of processing that follows. The best practices of intake processing contain some of these attributes:

—Accurate demographic and insurance information captured during pre-registration and registration. The private sector holds the registration clerks accountable for all data captured.

—Increased efficiency in registering patients at Medical Centers. Pre-registration captures up to 95 percent of necessary information before patients enter the Medical Centers.

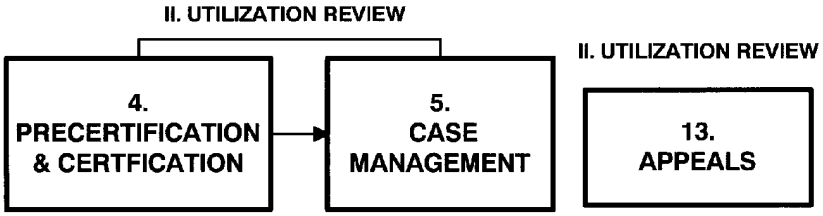
—Identification and verification of insurance will hold the payer accountable for the medical bill while reducing denials and increasing 3rd party reimbursements. The private sector identifies and verifies 95 percent to 100 percent of insurance.

—Bills can be adjusted prior to distribution because insurance contracts have been verified.

—The billing staff will face less re-work because they will not need to go back to the patient to collect further insurance and demographic information.

2. Utilization review

Utilization review (UR) confirms that the level and type of care that the patient receives is "appropriate," and that the insurance provider will reimburse for that care.



Utilization Review (UR) performs three processes in the cost recovery process: pre-certification and certification, case management, and appeals. It is a critical communication link between the business administration and the medical care functions of the hospital.

UR performs pre-certification/certification that is contractually required by insurance companies for inpatient admissions and for many outpatient procedures. The purpose of pre-certification/certification is to determine the appropriate level of care for each patient. UR communicates with the insurance companies to certify that the proper level of care is being given, the length of stay is correct, and the diagnosis is accurate so the hospital will be reimbursed for the medical care.

UR is part of the "front line" staff that has direct contact with patients. They are instrumental in closing gaps in insurance identification, eligibility/benefits information and insurance appeals.

The best practices of Utilization Review contain these attributes:

—Inappropriate medical care denials are reduced. The average private sector staff, 14 percent of FTE, is a UR nurse while the average VAMC staff contains about 7 percent of its FTE are allocated to Utilization Review.

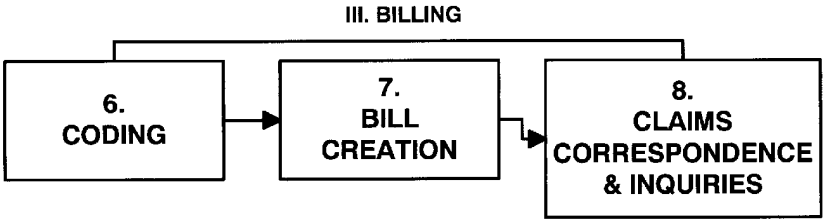
—Insurance company's policy concerning pre-certification/certification are fulfilled.

—Increase number of denials overturned by aggressive appeals.

—UR participates and conducts meetings with medical staff and cost recovery staffs.

3. Billing

Billing involves coding the medical care the patient has received and generating bills for reimbursement.



Billing generates the formal, detailed requests for reimbursement. Each bill accurately documents the services provided and the payment amount requested in order to maximize both first and third party recoveries.

In addition, since the bill is the formal notification to payers of their financial responsibility, it must be accurate and in the correct format to avoid denials or challenges.

Bills document the appropriate diagnostic codes (ICD–9 and CPT–4) for the medical care given and the charges generated, which the payers review before making payment. In both the VA and private sector, administrative error in coding is often a major reason for bill nonpayment.

Billing best practices contain several attributes:

—Bills are formatted to insurance companies' specifications.

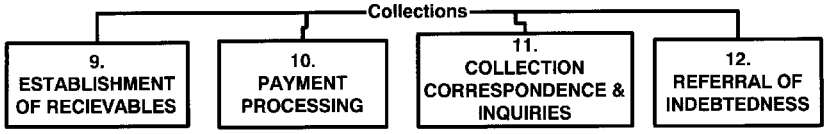
—Scanning software is used to increase accuracy and speed of coding.

—Large percentages of bills are sent electronically.

—Specialized payer teams are established—each with a major payer to build working relationships with 3rd party payers.

4. Collections

Collection is the actual receiving and accounting for incoming revenue and the pursuit of outstanding debts to increase hospital cash flow.



The collection process involves the following steps:

Establishment of receivables is the process by which the information from a bill is sent to Accounts Receivable and recognized as an outstanding debt to be collected, this process is normally done in billing as soon as a bill is created. Payment processing is the actual collection of money, matching dollars against the outstanding balance, notifying billing and UR of discrepancies in amounts billed and amounts collected, and closing out completed accounts.

Collection correspondence and inquiries is the process of continuous follow-up on delinquent bills until payment is received. Collections can provide additional information or documentation if necessary to make sure that a claim is paid. Referral of indebtedness is the referral of delinquent, collectable claims to an outside source for recovery.

Collection best practices include these attributes:

—All substantial claims are automatically pursued after a set time period and denials are automatically appealed

—Collections are aggressive and fast

—Payments are received electronically and transferred into appropriate accounts

—Accounts past due are outsourced to a collection agency.

B. PROCESS CHARACTERISTICS UNIQUE TO THE VA

Although the steps of revenue cycle processing are parallel in the private sector and the VA, many characteristics unique to the VA make private sector comparison difficult. Some of these features include:

1. *Veteran population demographics*.—The patient population of the VA is generally "high risk," consisting of veterans who are elderly and/or indigent, or have a higher risk of mental health. In addition, this aging population indicates a high number of patients who are eligible for Medicare. Because this specific population composes the bulk of veteran patients, the VA's population generally has a lower percentage of patients with private, non-governmental, health insurance.

2. *Patient mix*.—Because the VA provides medical service for military veterans based on a service rating, NSC/SC determinations, and veteran eligibility status, all patients who participate in the VA system are different. Medical charges, patient services, and care availability are unique to any single veteran. As a result, patient processing becomes a much more involved task than it is in the private sector. From a cost recovery standpoint, billing becomes difficult, as not all encounters are billable due to service-connected medical care and income level.

3. *Insurance identification*.—The VA is currently working against the average veteran's perception that he is entitled to "free" health care and, therefore, does not need to provide private insurance information. Although Congress has mandated disclosure of this information, large proportions of veterans are unaware, unable, or unwilling to provide insurance information. Currently, the burden of obtaining insurance information is on MCCR in the VA while, in the private sector, the burden is on the patients to produce insurance or be responsible for the billing charges themselves. The VA now has the difficult task of changing veterans' perceptions and their awareness of the importance of insurance identification to the medical center for cost recovery purposes, as well as their duty as VA patients to provide this information.

4. *Veterans' misconceptions*.—Because billing the veteran's private insurance policy is relatively new to the VA, many veterans are still unsure about the implications of this action for both the hospital and their individual policy terms. Veterans are still being told that, if they give the VA their policy information, it is possible that their rates will increase, services are cut, or their level of care will be based on insurance coverage. Poor marketing of the positive benefits of insurance collec-

tions for both the VAMC and the veteran add to the confusion surrounding private insurance billings.

5. *Inadequate cooperation from physicians (including inappropriate care and slow Patient Treatment File (PTF) closeouts).*—Because the VA is new to the process of billing third-party insurance, many physicians and other clinical staff are still unaware of the importance of their cooperation in the cost recovery process. As a result, physicians are often slow or non-compliant in completing patient treatment files in a timely manner, or they recommend inappropriate care-levels for veteran patients (e.g. inpatient admissions for outpatient procedures, excessive length of stay). Both of these customs are detrimental to full cost recovery for service by MCCR. In contrast, private sector clinical staff is fully aware of their duty to provide the clinical data and proper services needed to recover billable episodes of care, and work with cost recovery services to ensure maximum reimbursement.

6. *Lack of standardized charges.*—Unlike most providers, VA does not bill health plans for individual tests and procedures that it provides to its policyholders. Rather, the VA prepares bills based on its average costs for providing a day of hospital care and an outpatient visit. Thus, in the process of assigning charges to a given service, the VA currently lacks any standardized system from which to work, which often results in disputes with insurance companies over the accuracy of billing charges. Because the VA's method of assigning charges to services is outside the norm for insurance providers, this lack of standardization leads to a difficult process for cost recovery unique to MCCR.

7. *Payer mix.*—Unlike the private sector, the VA cannot bill Medicare. The private sector's biggest carriers are Medicare and/or Medicaid along with HMO/PPO contractors. All of these carriers will reimburse the private sector if billed. In contrast, the VA cannot recover payment from HMO's and PPO's at this time because the VA is not considered a preferred provider. (The veteran population is showing a trend of moving toward these kinds of policies.) Because of the VA's small billable payer mix, cost recovery becomes much more difficult.

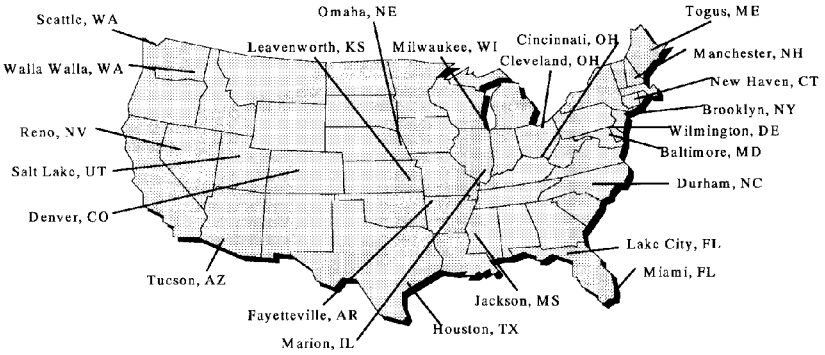
8. *Inability to bill Medicare.*—Legislation prevents the VA from collecting from Medicare, which is the largest healthcare payer in the country and constitutes 41 percent of the private sector's payer mix. A high percentage of the VA's patients are Medicare-eligible veterans, which renders any private insurance as a secondary policy. It is difficult to collect from Medicare supplemental policies because current VA billing practices (i.e., a flat fee) conflict with industry practice of paying "reasonable" rates. For example, if the VAMC flat fee is lower than the standard industry charge for a particular service, the Medicare supplemental provider will pay it. If the VAMC flat fee is higher, the provider will not pay at all. Currently, there are thousands of bills in litigation with supplemental and Medi-gap insurance companies that will not pay the VA .

SECTION 3: METHODOLOGY

A. INTRODUCTION

As part of the Veterans Health Administration's (VHA) ongoing process improvement initiative, Coopers & Lybrand was contracted to review, study, and make recommendations of how the MCCR process could enhance revenue generation. In preparation for this study, C&L interviewed MCCR Central Office staff to develop a survey of costs, process and activity maps, and a list of questions to ask VAMC's executives and MCCR staff. C&L visited two preliminary sites (Martinsburg and Richmond) to strengthen and adjust our approach and methodology before visiting the 24 VAMC's selected for site reviews. The Inspector General selected these 24 facilities prior to the award of this contract.

VA Medical Center Site Visits



To conduct a review and cost analysis of all aspects of the MCCR process, C&L:
—Analyzed fiscal year 1997 costs and FTE's by process (broken down into 13 sub-processes)
—Assigned national overhead costs to each of the 24 VAMC's studied based on numbers of bills generated at each site
—Calculated cost and FTE with and without overhead costs and distributed cost by debt type.

To perform the MCCR process analysis, C&L:
—Reviewed performance data compiled through VA diagnostic measures
—Facilitated MCCR focus group sessions at the VAMC's and administered a qualitative attribute survey to measure MCCR process performance in the areas of rework, accuracy, and internal customer satisfaction.
—Developed an internal C&L team survey to gauge the success of the five critical success factors at each VAMC.

To conduct a private sector benchmark/best practice survey, C&L:
—Compared the MCCR process to similar activities in private sector healthcare organizations
—Conducted a private sector benchmarking survey of more than 25 hospitals nationwide and compared performance data between the 24 VAMC's and the private sector hospitals
—Reviewed national healthcare financial publications and databases for literature and data on "best practices" in this industry
—Interviewed 14 industry leaders in hospitals, patient accounting offices, and collection agencies, drew upon C&L's internal resources with expertise and experience in the health care industry

To design a most efficient organization, C&L:
—Analyzed the VA's MCCR organizational structure and created a proposed new organizational structure that would streamline the overall process
—Developed scenarios for consolidation and new core businesses
—Interviewed contractors, vendors, and insurance carriers
—Factored in other VA and MCCR initiatives
—Conducted a cost benefit analysis to ascertain which processes could be performed more effectively by outside contractors
—Incorporated findings from the best practice survey

These various methodologies are described in more detail below.

B. COST ANALYSIS

C&L analysts used activity-based costing (ABC) to assign total resources (labor, non-labor, and national overhead) for the total MCCR process. ABC breaks a process down into its components and sub-processes, and measures the labor and non-labor costs associated with each activity.

To collect this data, Coopers & Lybrand sent teams consisting of two to four people to 24 VAMC's across the country. The teams interviewed VA employees representing the 13 sub-processes in the current MCCR process to validate the process

activities identified by the VA, and to collect quantitative and qualitative data for each activity.

Teams gathered data from each sites' financial reports, diagnostic measurements, and statistical packages. The statistical packages included information given to us by Central Office on each VAMC site, which included workload, number of operating beds, budgets, etc.

1. Determining resource costs

Through interviews with VAMC personnel, C&L staff reviewed fiscal year 1997 actual costs expensed against the MCCR appropriation, Fund 5014A. The 830 financial reports, provided by the VAMC's, contain all types of costs including: Personnel Compensation; Personnel Benefits; Equipment and Supplies; Travel; and ADP.

The purpose of our review of fiscal year 1997 costs was to understand the types of costs that were expensed against the MCCR appropriation, Fund 5014A. Based on our discussions with the MCCR Program Office, we had reason to believe that the full cost of performing MCCR related activities was not charged to Fund 5014A. Our goal at each of the 24 VAMC's was to first establish the costs expensed against Fund 5014A. Second, identify the MCCR related costs that were not supported by, nor expensed against, Fund 5014A. The sum of the Fund 5014A costs and these additional MCCR costs, which were funded by other hospital appropriations, constitute the full local cost of performing MCCR.

After establishing the full local cost of MCCR, the C&L staff and VAMC MCCR employees assigned labor and non-labor resources to the 13 processes. Labor resources were assigned using full time equivalent (FTE) employees that support each process. Similarly, non-labor resources were assigned based on the FTE employees that support each process.

2. Assigning national overhead costs

In addition to the MCCR costs incurred at the local VAMC, there are costs associated with functions and programs managed at the National Level. These costs are referred to as National Overhead. Examples of National Overhead functions are the MCCR Program Office, General Counsel, and Financial Management Office. The VA requested that C&L identify a methodology to assign the National Overhead costs to the processes performed at the VAMC. Without performing a detailed cost analysis of the National Overhead activities, C&L and the VA MCCR Program Office determined the most appropriate method of assigning these costs. The National Overhead costs were assigned to each VAMC based on the number of bills generated. That is, the National Overhead costs were assigned to a VAMC in proportion to the number of bills that the same VAMC generated as a percentage of all bills generated nationally.

3. Calculating cost to collect

The term Cost to Collect is a measure of operational effectiveness for the entire MCCR process. This measure refers to the cost to collect $1 or the full cost of MCCR divided by the total collections achieved represented by the following formula: Cost to Collect = MCCR full Cost/Collections

In order to determine the Cost to Collect for each of the six debt types, we first calculated the unit cost of producing each bill. The unit cost of each bill was calculated by assigning the MCCR process costs to the six types of debt. Through interviews with VAMC personnel, we were able to identify the work steps or activities that comprise MCCR which support the generation of each type of bill. Therefore, the costs associated with these work steps would be driven to the appropriate debt type(s). The MCCR activity costs were driven to the debt types using the quantity of bills produced. For example, if a MCCR activity supports two separate types of debt and the quantity of bills produced for Debt A and Debt B are 200 and 100 respectively; two-thirds of the MCCR activity cost will be assigned to the production of Debt A and one-third will be assigned to Debt B. This method supports the notion that the consumption of resources has a linear relationship with the quantity of bills produced.

The cost analysis methodology was applied consistently to each of the 24 VAMC's to ensure data integrity and likeness in the study. The results of the data collection process and application of activity based costing (ABC) methodology to determine full local costs of each process and debt type are presented in Section 4.

C. PROCESS ANALYSIS

Process analysis was a critical tool to measure the inputs, activities, and outputs of each of the MCCR core processes. Within this framework, data were collected and analyzed to use in assessing the current baselines in the VA, benchmarking per-

formance against best practices and identifying areas of short-term and long-term improvement opportunities. In accordance with our Breakpoint BPR methodology, our process analysis focused on the assessment of the baseline in order to better determine the points at which improvements would help the VA capture revenues more effectively over time and consider redesigning elements of the process to fulfill that mission.

In early 1997, the VA created a basic revenue cycle process map of its MCCR operation. C&L worked jointly with the VA to validate the sub-processes and activities involved in each process segment, evaluating the data according to the four MCCR segments and their associated processes. Using already existing data compiled through VA diagnostic measures and supplementing the analysis with our own focus groups and surveys, we were able evaluate performance in a number of key areas, both quantitatively and qualitatively, and describe the current environment's readiness for change.

1. Quantitative Analysis of Process Performance

The following is a group of diagnostics that was chosen in conjunction with the VA to assess already existing performance measures.

VA Diagnostic Measures Analyzed: Percent of completed registrations; Insurance and new registrations; Insurance policies—not verified; Veterans with unverified eligibility; Bill/payment lag time; Outpatient workload; and SC Veterans with NSC episode of care.

Given these diagnostics, we were able to determine basic averages and the range of performance for VAMC's today. These diagnostic calculations, though manifesting great variation in the data, enabled the C&L team to identify sites associated with best practices as models for continuous improvement.

2. Qualitative Analysis to Assess Organizational Culture and Readiness for Process Improvement

To ascertain the overall quality of performance, the C&L teams held focus group sessions at each site, during which they asked VAMC employees representing each process to rate themselves and rate each other, and to suggest ways the basic process or their performance could be improved. Employees were asked to rate the following:

—Rework, namely the percent of re-work and redundancy for each activity, represented in 5 percent increments.

—Performance accuracy, particularly associated with the intake process, rated on a scale of 1 (low) to 5 (high).

—Internal customer satisfaction associated with the intake process and bill generation rated on the same 1 to 5 scale.

As part of this effort, we ran frequency analyses to determine whether a low, average, or high rating in any one activity affected performance (cost and cycle time) in a subsequent activity. The regression analyses showed a high degree of variability in the data, suggesting that business operations and practices related to the revenue cycle were not uniform across the VA sample. Some clear relationships did exist, however, particularly in how inefficiencies in the front end of the process increased cost, rework, and cycle time in later phases.

The team also developed a survey which we used to gauge the degree to which five critical success factors (i.e., strong leadership, clear accountability, centralized organizational structure, use of information system technology, and effective human resource management), were in place at each of the 24 VAMC sites. The C&L site team leader filled in the survey for each site. The scores were validated by other baseline measurements related to overall cost and cycle time. Sites that scored high on the critical success factors scored higher on overall performance measures and were often the sites where we observed revenue cycle "best practices" of the kind we observed in private sector hospitals, which validated our observation-based findings.

D. PRIVATE SECTOR SURVEY

1. Best practices

To collect data on best practices in the private sector, the C&L team surveyed 25 hospitals nationwide. We also studied more than 100 articles relating to best practices in all aspects of cost recovery in the private sector, AR, patient access, best practices, leadership, coding, analyzed national healthcare financial publications and databases and conducted interviews with individuals representing "world class" hospitals, collection agencies, and patient accounting operations.

2. Cost and performance

In the private sector, the traditional process of the revenue cycle represents an expense ranging from 1.5 percent to 9 percent of the total amount collected, depending on size and scope of the operation, information systems, overhead allocation, and types of activities allocated to each segment of the process. Typical expenses associated with the revenue cycle include:

Labor.—Direct labor for each activity, managerial labor, temporary or contractual labor and the benefits associated with the direct labor.

Direct expenses.—Supplies, postage, contract services, equipment, outsourced activities collection agency fees, and training.

Overhead.—Utilities, information systems, senior management expenses.

Most of the hospitals C&L surveyed for this study do not use a cost-to-collect metric to measure performance. The percentage is generally so low that they rely on other key performance measures to evaluate their processes, such as accounts/receivable days outstanding and total collections. We used the HARA (Hospital Accounts Receivable Analysis) cost-to-collect ratio as our benchmark. HARA collects hospital business office expense data (including admitting/registration) each quarter. This figure is divided by the total dollars collected during the same period (not including non-patient revenue) to determine the ratio.

For each private sector site, we collected cost information by the four segments identified in the VA MCCR process: intake, utilization review (UR), collections, and billing. We allocated expenses by labor, direct costs (supplies and materials), contracts, and overhead. For each hospital, we calculated total amount billed, total amount collected payer mix, inpatient/outpatient mix and other variables.

In addition to identifying costs, we compared each of the 13 sub-processes to determine level and type of resources and whether the sub-process was part of a centralized or decentralized organization. Our findings related to comparisons of the VA revenue cycle process with that of the private sector is described in detail in Section 4: VA Findings.

E. ORGANIZATIONAL REDESIGN/OPTIMAL CONFIGURATION

1. Primary considerations

Our primary considerations in designing an optimal VA revenue cycle process and revenue cycle organization were:

—Our determination that the VA's basic revenue cycle process was valid. It needed to be improved in a number of ways on a "transactional" level, but it did not need to be scrapped completely.

—The VA can never operate exactly the way private sector healthcare organizations do. Fundamental differences in overall culture, patient population, and third-party payers needed to be factored in to the new revenue cycle process.

—Any recommendations we made for improving either the process or the basic organization had to relate practical process improvements to the VA environment.

—We limited our thinking about consolidating certain functions to not just gains in efficiency and costs but to geographical/logistical concerns as well. The VAMC's needed to be within a reasonable traveling distance of any consolidation site.

—In general, we tried to focus on the need of the patient for quality healthcare and customer service. Part of the intake segment, for example, involves contact between hospital staff and the patient, what we call "front office" activities that can make a patient feel less anxious, more informed and better cared for at the hospital level. In other cases, the best healthcare and customer service for what we call "back office" activities (pre-registration, bill generation, collections, etc.) may require that these activities be removed from the hospital level and consolidated elsewhere. Not all "back office" functions are ready to be consolidated, but many are, and the VA will benefit from having these functions standardized and centralized.

—We also tried to make the optimal configuration flexible, allowing the VAMC's and the VISN's to determine their best operating procedures for each sub-process and activity.

—And finally, in keeping with the VA's own "30/20/10" goals, we focused on creating the most efficient organization that could be put in place within 24 months and allow VA, in the short term, to collect as much cash as possible in the short term while maximizing recoveries for the long term.

2. Cost benefit analysis

The scope of C&L's cost benefit analysis (CBA) is based on our comparison of the VA's current "as is" cost recovery process to the optimal "to be" configuration, which we have termed the Optimum VA Revenue Cycle. The scope of the analysis includes:

—Capturing process cost and performance data during VAMC site visits;
—Benchmarking optimal "to be" revenue cycle to private sector and identify practical process improvements;
—Assessing the feasibility of several options that are standard practices in the health care industry;
—Obtaining cost/performance estimates from vendors;
—Assessing vendor cost projections and determine "to be" reasonable indicators;
—Determining future cost using constant dollars (excluding start-up costs);
—Using existing data to extrapolate potential cost savings and revenue enhancements; and
—Determining confidence level of the analysis and assessing risks.

This definition of the cost benefit analysis meets the technical requirements of the statement of work and includes the key assumptions, which relate to initiatives the VA already has under way. These include:

—Completing the "clean-up" of all insurance and demographic data in the veterans' files.
—Implementing all technology systems and related interfaces including: National Patient Care Database (administrative and clinical attributes), Centralized Patient Accounting System, Medicare Remittance Advice (MRA), Electronic Data Interchange (EDI), Lockbox and Electronic Funds Transfer (EFT), Point-of-Service (POS) Collection, Integrated Enrollment, Decision Support System (DSS) Integrated Claims Tracking System, and Electronic Coordination of Benefits.
—Completing all Universal Billing initiatives.
—Implementing on-line insurance verification software from major insurance payers at all VAMC's and VISN's to verify and update patient insurance information, a critical assumption as these insurance payers comprise roughly 50 percent of all regional third-party payments.
—Implementing electronic medical records systems that link SC/NSC ratings with diagnosis and transmit data electronically to users across the VA.

3. Outsourcing analysis

C&L's outsourcing analysis was framed by our belief that none of the sub-processes of the "to be" revenue cycle were inherently governmental. We have identified some sub-processes (particularly those we term "back office") that will benefit from being consolidated and/or outsourced. In this context, "outsourcing" means that the sub-process is "done" by someone other than VAMC hospital administrative staff. For example, if pre-registration is done very well in Baltimore, then the VA might consider "franchising" all pre-registration activities to the Baltimore site or to some other Federal Center for Excellence.

Our preliminary recommendations for outsourcing are included in Section 6. However, C&L suggests that the VA revisit its outsourcing options at the end of the 24-month "to be" implementation. By this time, the VA will have incorporated many improvements and changes to the basic cycle and can weigh outsourcing options against a background of its own revenue cycle process working as well as it can.

The C&L team spoke with representatives of six contractors that provide one or more revenue cycle services. Several contractors offering one or more service supplied their pricing schedule for discrete sub-processes, pricing for "turn-key" services, i.e., from intake through collections. The site teams also spoke to contractors used by private sector hospitals located in the same areas in which the VAMC site visits were made to collect data on the capabilities, methodologies, and fees of various vendors.

We also analyzed data and literature provided by healthcare and collections related agencies such as the HARA 1997 (a benchmark report on hospital accounts receivables), the American Guild of PAT Accounting Managers, the American Hospital Collection Agencies, and the Healthcare Financial Managers Association (HFMA).

SECTION 4: FINDINGS

C&L visited 24 sites to review and analyze the "As-Is" MCCR process. C&L found the MCCR process, as it currently exists, to be an overall sound approach to cost recovery. However, MCCR operations currently suffer from a lack of process standardization across medical centers and throughout the entire VA. Additionally, many VAMC's are not utilizing existing procedure guidelines or available technology. Fur-

ther, the review identified that there is a critical need to establish internal controls and performance measurements in all process areas.

Most important however, is the need for the VA to transform its current focus on revenue and collections. It is critical that VA shift its paradigm from cost recovery to revenue generation—that is, their goal should not be limited to merely breaking even.

Through streamlining processes, structural reorganization and improved use of technology, we believe the VA can transform its revenue cycle to achieve the goal of 30 percent cost reduction and 10 percent revenue generation by fiscal year 2002.

A. VA STUDY SITE PROFILE

1. General data

The following is a brief description of cost and performance data that C&L identified at each of the 24 VAMC sites. C&L used this data to measure VA internal performance and to compare the VA with the private sector. Table 4.1 lists this information by site according to collections per FTE. To maintain anonymity, the names of the sites have been omitted and are listed instead A–X.

a. *Collections per FTE*.—C&L found that the average collections per FTE for the 24 sites were lower than the national average. Calculations were made for all FTE that were actually involved in the MCCR process, including additional FTE that were not part of MCCR's FTE budget allocations. Because it demonstrates staff productivity and resource allocation needs, C&L determined that collections per FTE is an important internal performance measure.

b. *Cost-to-Collect*.—Cost-to-Collect is a strong measurement of how well the MCCR processes are working. This cost data measures whether performance tools currently in place are being utilized, whether the organization's focus is revenue generation, and whether staff is utilized in the areas needed. Finally, this measure gives an outlook as to whether the organization is meeting its internal goals.

c. *Collections per VAMC Budget*.—In order to meet 30/20/10 goals, collections must be one of the organization's primary focuses in order to continue optimal patient care, decrease recovery costs, and increase revenue. The data are useful internal measures because an operating budget reflects the return on care provided by the VAMC. However, both the payer-mix and patient-mix that characterize the particular VAMC region affect this measure.

TABLE 4–1. FISCAL YEAR 1997 COST AND PERFORMANCE DATA

VAMC	Operating bed size	FTE	Collections	Collections per FTE	Cost to collect $1	Collections per VAMC budget—percent
N	470	41	$3,208,589	$78,488	$0.67	1.57
V	64	12	951,659	79,173	0.61	3.62
L	59	18	1,695,459	95,197	0.53	3.64
G	89	16	1,724,923	110,572	0.46	4.71
T	224	19	2,510,152	134,161	0.43	3.34
W	405	38	4,986,263	131,252	0.43	2.58
S	513	45	6,080,114	135,626	0.41	2.58
B	342	40	5,753,960	143,993	0.39	2.54
D	475	60	7,446,807	124,113	0.37	3.17
P	144	22	3,108,006	142,831	0.37	4.18
C	187	22	2,913,566	131,065	0.35	2.77
J	172	16	2,437,512	155,058	0.32	3.33
Q	86	10	1,785,980	180,402	0.32	2.87
H	659	33	5,826,145	174,540	0.31	2.66
X	106	11	1,790,920	165,214	0.30	3.13
R	243	26	4,368,095	169,306	0.29	3.60
M	93	12	2,165,059	184,732	0.27	4.59
A	757	32	6,911,594	214,313	0.26	3.02
E	261	15	3,104,304	203,294	0.26	2.33
F	240	23	4,647,077	201,959	0.26	3.22
I	268	22	4,350,111	201,955	0.25	3.67
U	195	20	3,381,391	172,608	0.24	3.12

TABLE 4–1. FISCAL YEAR 1997 COST AND PERFORMANCE DATA—Continued

VAMC	Operating bed size	FTE	Collections	Collections per FTE	Cost to collect $1	Collections per VAMC budget—percent
K	128	10	2,177,233	225,854	0.22	3.53
O	264	19	4,560,051	237,379	0.22	2.70
Average	269	24	3,661,874	151,552	0.34	2.93

2. Summary of major process findings

During the 24 site visits, C&L identified several common issues in the operation of MCCR processes. The following are major findings that were common at 30 percent or more of the sites. In many instances, these findings are policy issues that need to be addressed at the National level.

(a) Intake.—Intake is an important segment within the MCCR process. If intake processes are not performed to optimum levels, then all MCCR processes are effected. As such, investment in training and process improvements within the intake process is essential.

(1) Pre-Registration was utilized at only six sites. Pre-registration is a sound activity if utilized which can significantly help identify and retrieve patient insurance information.

(2) Insurance identification lacks aggressiveness. If the veteran answers no to the insurance question, no follow-up questions are asked.

(3) Intake personnel are not properly trained in interview techniques and customer service issues. Additionally, intake staff at many VAMC's are not knowledgeable about other MCCR processes or overall goals.

(4) Organizational structure issues create communication gaps between intake and other MCCR processes.

(5) Insurance question is often not asked due to excessive points of entry for the patients.

(6) High turnover rate in intake staff contributes to decreases in process efficiency.

(7) Software and technology are not being utilized to optimum levels. For instance, clean insurance databases would increase data accuracy and process efficiency.

(8) Insurance verification is currently a labor-intensive process. Manual insurance verification often increases the time and cost to produce a bill.

(b) Utilization Review (UR).—UR is an important function in the cost recovery process. Because insurance companies require pre-certifications and continued stay reviews, information gathered by UR staff is critical to both bill creation and collections. Additionally, UR must play an integral role in ensuring that inappropriate care is not provided.

(1) UR spends little or no time in the appeals process at most VAMC's.

(2) Claims Tracking software is not being utilized to optimum levels. This leads to lost communications between UR and billing/collection staff.

(3) Many insurance companies are now requiring pre-certification for outpatient psychiatric visits and same day surgeries. There currently are no mechanisms in place to identify, in advance, these types of visits for proper certification.

(c) Billing and Coding.—Billing and Coding play a vital role in collections. Both processes could be automated if accurate insurance, coding, and billing data is collected.

(1) Service connected and non-service connected determination is often misapplied and difficult to comprehend. The initial veteran rating, used to determine SC/NSC, is not specific and does not match up to medical diagnostic codes. This problem leads to the medical staff marking service connection for all encounters instead of determining SC/NSC for each diagnosis.

(2) Encounter forms are not being utilized properly. Many times the diagnosis uses wrong codes or general codes (referred to as V codes) which 3rd party payers will not accept. This problem causes a major rework loop for the billers.

(3) Special consents are not obtained at registration for drug and alcohol, psychiatric, or HIV related diseases. The billers cannot bill unless there is a patient signature for these treatments.

(4) Insurance data files need to be updated. Autobiller will not work well unless insurance data files are accurate.

(5) Autobiller is not being used at some sites.

(d) *Collections*.—Collections, in many cases, were not a primary focus.

(1) There is a shortage of collection personnel. In many cases, collection personnel are used for additional tasks beyond collections.

(2) A/R software package is not regionally linked or compatible with billing system.

(3) Claims Tracking software was not used effectively.

(4) First party bills for repeat patients are not incorporated into previously established payment plans.

(5) Many receivables are currently tied up in litigation. Our survey of the 24 sites identified that an average of $4 million per site has been referred to General Counsel.

B. VA PERFORMANCE VS. PRIVATE SECTOR BENCHMARKS

1. Primary Benchmarks

(a) Collections to Operating Budget.—The private sector (both for-profit and not-for-profit) was chosen as a means of comparison because many billing and collections functions are generic. Also, the private sector is dependent on revenue generation as a means for hospital operation. (Figure 4–1). Consequently, the private sector has created high performing organizations with a focus on revenue generation.

FIGURE 4–2.—*Collections to Budget*

	Percent
Private sector	100
VA	3

As shown in figure 4–2, collections as a percentage of the hospital operating budget demonstrates a major difference between the VA and private sector. The private sector recovers nearly all of its revenue through collections, while the VA is funded mainly through appropriations. The private sector is much more motivated to collect payments and has been generating revenue longer, which means it can provide meaningful performance benchmarks and best practice ideas.

According to the 30/20/10 initiative, by the year 2002, 10 percent of the VA operating budget will need to come from collections and other forms of non-appropriated revenue. The VA can close the gap between the 3 percent it currently collects and the 10 percent it needs by adopting some of the best practices used both in the private sector and high performing VAMC's.

C&L developed four primary and five secondary benchmarks, which are used to provide comparisons between the private sector and the 24 VA sites visited. These benchmarks are key indicators of how well an organization is achieving goals and standards.

(b) Accounts Receivable

FIGURE 4–3.—*Accounts Receivable*

	Days
Private sector	60
VHA	239

Accounts receivable is money owed to an organization that has not been collected. Having money in AR means that you do not have the cash on hand to use for your operations. Using the VA's "Date Receivable Closed," this comparison shows that the VA has major room for improvement in AR. The longer a bill is outstanding, the less likely it is that it will be collected. This ultimately reduces cash flow. The 60 days in AR for the private sector is the same for inpatient and outpatient AR. The 239 days for the VA is the average of inpatient and outpatient AR that is broken out in Figure 4–4.

FIGURE 4–4

	Bill lag time [1]	Date of care to date receivable closed [2]
Private sector	8.9	60
VHA inpatient	82.14	300
VHA outpatient	84.71	177

[1] Date of care to date claim authorized.

[2] Data taken from sites visited.

The compilation of all the VA obstacles plus poor process performance contributes to the extremely long days in AR for the VA. Even with all the VA obstacles, by improving process performance, the VA should be able to reduce the days in AR by at least 30 percent.

(c) Accounts Receivable Greater Than 90 days

FIGURE 4–5.—*AR>90 Days*

	Percent
Private sector	28
VHA	92

The 92 percent for the VA in figure 4–5 include the 83 days in bill lag time. The 92 percent was derived from VA diagnostic measurements because the VA does not measure the AR>90 the same way the private sector does. The private sector begins their AR cycle at the time of discharge. The VA starts their AR cycle after the bill has been issued which does not include the 83 days in bill lag time (figure 4–7).

(d) Bill Lag Time

FIGURE 4–6.—*Bill Lag Time*

	Days
Private sector	9
VHA	83

The bill lag time is the amount of time it takes to generate a bill from the date of patient care. It is important because the sooner a bill is established, the sooner payment can be collected which increases an organizations' cash flow.

Two of the obstacles which make the VA's bill lag time so much longer are the necessary separation of Category A patient records for which no bills are produced, and the lack of physician incentives for the timely completion of medical records or accurate SC/NSC designations.

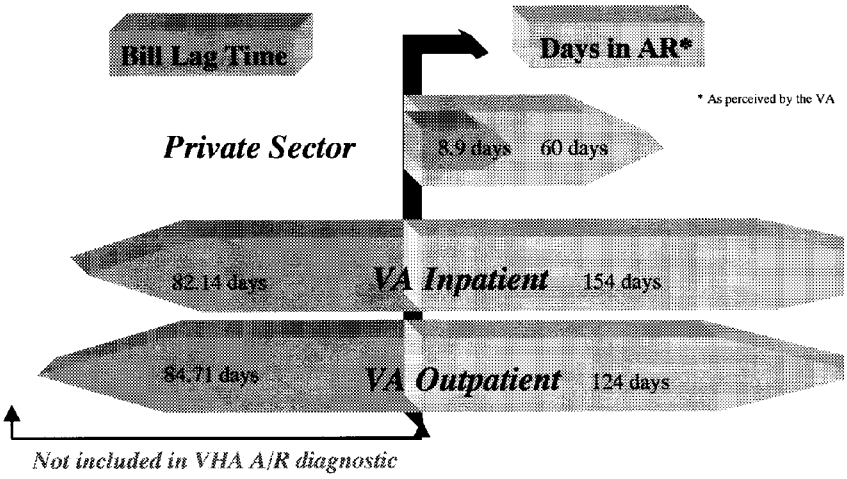


Figure 4-7

We had to adjust the VA measure to include the 83 days of bill lag time in order to have a true comparison. A primary goal of the medical centers is to increase cash flow. Reducing the days in AR encourages that. The longer a claim takes to get paid, beginning from the date the care was provided, the more difficult it is to collect. Long standing claims increase re-work, denials, and chances for bad debt.

2. Secondary Benchmarks

(a) Collections per FTE

Figure 4–8

Collections per FTE	$3,077,492
VHA	151,552

The reason for showing the collections per FTE is to illustrate that there is a tremendous difference in performance between the private sector and the VA. Even though there are obstacles in the VA (e.g. Payer mix) which prohibit the VA from matching the private sector performance, the VA should be able to increase their collections per FTE by at least 30 percent through process and performance improvements.

(b) New Patients with Insurance Identified

Figure 4–9

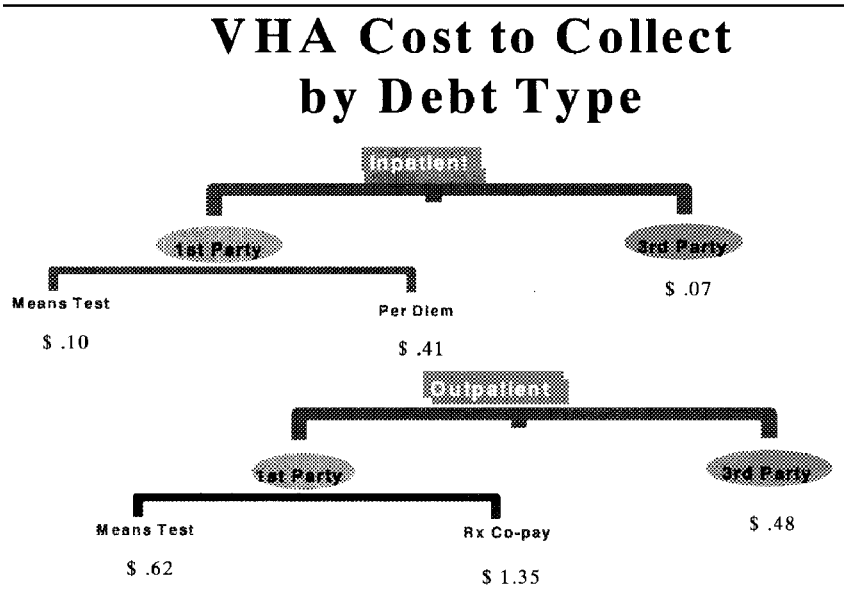
	Percent
New patients with insurance identified	100
VHA	16

The private sector survives by identifying insurance to ensure that everyone treated has a means for paying their bills. The VA is fairly new to the reimbursement process, and the majority of the veterans who use the facilities do not have billable insurance. Improving the intake process however, should help close the identification gap. Identifying veterans with billable insurance will be crucial for meeting the 30/20/10 initiative.

The VA has several obstacles in the insurance identification process. As discussed in Section 2, veteran's perceptions and misconceptions hinder the VA's ability to get insurance information. In addition, there is little or no risk to the veteran for not providing insurance information.

In addition to collecting patient insurance information, the VA must also identify and verify veteran eligibility and service connected conditions. The VA has to conduct income screens and financial means tests. All of these additional requirements increase the complexity of the intake process and the possibility of collecting incomplete or inaccurate information.

(c) Cost-to-Collect



The cost-to-collect results of the 24 VAMC's are shown in the debt tree. These results represent the average cost to bill and collect $1 for each of the six debt types (1st and 3rd party) for the 24 sites. The costs included in these measures are labor and non-labor costs associated with all 13 processes that perform MCCR activities.

The costs assigned to the six debt types were divided by the total fiscal year 1997 collections for each. It is apparent that the costs associated with generating and collecting prescription co-pays are greater than the $2 revenue per prescription.

FIGURE 4–10.—*Cost-to-Collect*

PS	$.023
VHA	.34

Cost-to-Collect is primarily used as a measure by the VA. The private sector generally does not use this as a major diagnostic because cost-to-collect measures an end result of the process and the value is very small. Once again, the huge disparity in the values is illustrated. As before, the obstacles faced by the VA, such as payer mix and patient mix, can be used to explain a portion of the performance difference, but there is still obvious room for improvement in the VA. Financial incentives have only recently been provided to the VAMC's (e.g. the VAMC gets to keep its collections). The lack of financial incentives had been an obstacle that contributed to higher costs to collect in the past. The use of these incentives should help reduce the Cost-to-Collect, but only through process improvement.

d) Resource Allocation.—The resource allocation of MCCR personnel is different between the VAMC's and private sector (Figure 4–11). The Intake process in the VA will most likely continue to consume a higher percentage of resources than the private sector even with process improvements because of the additional information they are required to collect.

Figure 4–11

	Percent
Private sector:	
Collections	31
Billing	25
Intake	30
UR	14
VHA:	
Collections	25
Billing	31
Intake	37
UR	7

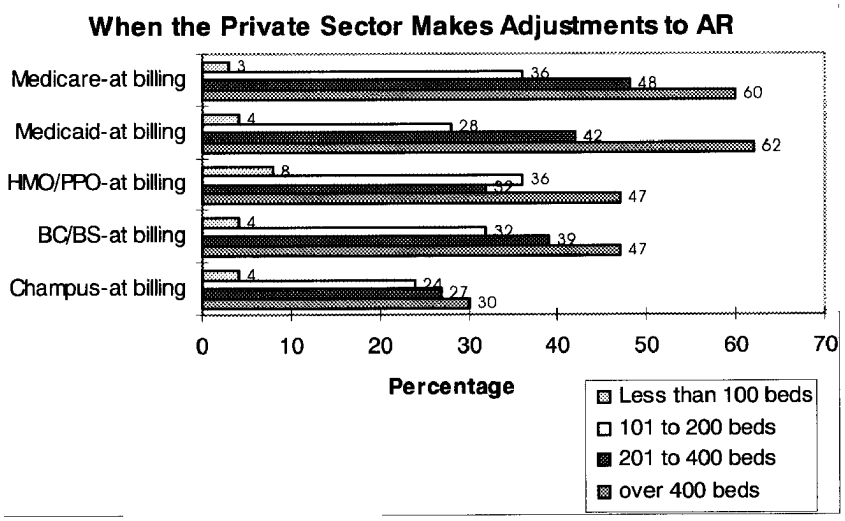
The resource allocations, which should be corrected in the VA, are the resources in Billing (31 percent) and Collections (25 percent) which are the exact opposite of the resource allocations in the private sector. The VA resources are results of rework for the bill coding and bill generation staff caused by poor insurance identification, poor outpatient coding, and delinquent discharge summaries. These factors and others contribute to the inverse resource allocation of the VA. Organizational and performance improvements in the registration and billing processes will allow more resources to be allocated to the collection process for the collection of outstanding payments.

(e) Net Collections

FIGURE 4–12.—*Net Collections to Total Billing*

	Percent
PS	62
VHA	32

Net collections to total billings measures the amount of dollars collected as a percentage of the total dollars billed. There are several reasons why the private sector is nearly twice as efficient as the VA in the percentage of net collections to total billings. Two significant reasons are that the private sector has aggressive collection practices, and the private sector also makes contractual adjustments prior to bill generation (figure 4–13). Both of which are discussed in further detail in the best practices section.



Many private sector hospitals make their contractual adjustments before a bill is generated. This makes their AR much more accurate and gives them a more realistic idea of what they will actually collect. The VA does little in the way of contractual adjustments until remittance, a practice that artificially inflates collectable accounts/receivable.

SECTION 5: BEST PRACTICES REVIEW

In our review of cost recovery programs, C&L identified Best Practices in both industry and VA hospitals. The four major process segments (Intake, Utilization Review, Billing, and Collections) were used to categorize our examination of these best practices. Although some best practices were identified in both the private sector and the VAMC's, in certain cases, duplication of industry best practices by the VAMC's are not feasible, given the various organizational and operational constraints discussed earlier.

Additionally, C&L identified some best practices during the site visits that are unique to the VA alone. Specific VAMC's are identified for many of these best practices as discussion examples. However, this does not indicate that other sites not mentioned in the following discussion do not also utilize these same best practices.

A. BEST PRACTICES

1. Intake

Best Practices in intake maximize the speed and accuracy of data capture. The following table summarizes the best practices C&L identified in both the private sector and the VA. Following this table is a description of the positive benefits of each best practice.

BEST INTAKE PRACTICES IN THE PRIVATE SECTOR AND THE VA

Private sector.—Preregistration; Limited points of entry; Insurance cards are copied or scanned; Online insurance verification; Certification program and formal training; Single process owner for intake process; Copay information communication at registration; Performance measures are utilized; Drop-down lists for insurance companies/policies; and Aggressively capture data.

VA.—Preregistration; Registration teams; Insurance cards are copied or scanned; Online insurance verification; Formal training; and Single process owner for intake process.

Pre-registration processing.—The private sector uses pre-registration to capture patient demographics for 95 percent of scheduled patient visits prior to the hospital encounter. Conducting this process has allowed hospitals to cut their registration cycle time at the medical center to less than 2 minutes per patient. VAMC's that have implemented pre-registration have realized similar benefits, including increased insurance identification and customer satisfaction. For example, the Tucson

VAMC conducts pre-registration using a customer service telephone line called "Telephone Linked Care" (TLC). Patients can use TLC to update demographic information, make or change appointments, or register in the VA system. Tucson's "percent of insurance coverage question unanswered" was one of the best (2.49 percent) among the 24 surveyed sites (17 percent average).

Limited points of entry for registration.—In the private sector, patients may only check-in at two or three specific registration areas before they can proceed to their final destination. This reduces the opportunity for missing important registration information. To limit their points of entry, some VAMC's have assigned patients to registration teams. Patients must register with their team at the initial visit and for all subsequent visits, linking accountability for patient information directly to an intake team. For example, Walla Walla has four registration teams, A, B, C, D, which correspond with the patient care teams. Each registration team serves assigned patients and updates patient data at each visit. Walla Walla has the highest rating in "percent of insurance question unanswered" at .01 percent, where the mean of the 24 sites is 17 percent.

Aggressively capture registration data.—In the private sector, the registration software screens have mandatory fields that cannot be bypassed; this requires entry of 100 percent of the registration data. These fields must be verified with a driver's license, insurance cards, and/or other forms of identification. The accuracy and efficiency of the VAMC registration interview could be improved with these types of software modifications.

Insurance cards are scanned or copied.—In the private sector, copies of insurance cards become part of the medical record. This step helps to identify all of the patients who have medical insurance; identifies people in need of government assistance; and keeps the number of self-pay patients under 1 percent. Some VAMC's have also adopted this practice, and registration clerks now make copies of patient insurance cards during the registration interview.

Insurance companies and policies are chosen from drop-down lists.—Insurance information can only be selected from the data provided on the registration system. Registration personnel cannot change any information; any insurance information unrecognized by the system must be placed in a pending file for later verification. The VAMC's currently have no such software capabilities. However, this type of modification would reduce the input of erroneous insurance information.

Online insurance verification.—Private sector hospitals are online with 67 percent of the medical center's insurers. This capability greatly decreases the cycle time needed to verify a patient's insurance coverage. When selected, 98 percent of the online policies are verified within seconds. Those policies that are not in the system are put in a pending file and later verified by online insurance file maintenance personnel. Some VAMC's have contracted with payers to go online for insurance verification as well. West Haven and Togus are online with their major provider, Blue Cross/Blue Shield, and have decreased the amount of time spent on insurance verification.

Co-pays (deductibles) are calculated up front and communicated to the patient; arrangements for payment are made at registration.—When a policy is verified at a private sector medical center, the payment parameters are described. All co-pays and deductibles are targeted for collection up front, with the goal of capturing them upon discharge. It is approximately eight times more costly to collect co-pays and deductibles after a patient has left the facility than it is at registration. VAMC's do not currently communicate any payment information to the patient at registration.

Performance measures are used to provide feedback, incentives or discipline.—A number of measures are used to assess performance in the private sector, including (1) keeping a count of incomplete/incorrect registrations, (2) setting performance goals, (3) conducting patient satisfaction surveys, and (4) returning claims which have been denied for technical reasons to the responsible party for correction and resubmission. Rewards and discipline are clearly linked to measurable goals and objectives. The VAMC's currently do not have any formal compensation programs for staff based on registration performance measures.

Certification programs and formal, mandatory training are utilized.—A minimum of two or three formal, annual training courses are required for raises and promotions. Personnel can become Certified Patient Account Technicians through the American Guild of Patient Accounts Managers (AGPAM). At some VAMC's, formal training programs have been developed specifically for training intake staff in identifying insurance, in utilizing VISTA software, and in improving customer service. Houston uses the incentive of upgrading intake personnel one GS level upon successful course completion.

A single process owner for intake and MCCR.—C&L found that medical centers that have aligned the entire 'MCCR' organization under one process owner have improved information flows and process communications. According to an observation survey, 45.8 percent of the VA sites visited lacked a system where management of intake and MCCR were coordinated under one unit. Some medical centers, however, such as Omaha, did organize intake processes under the same business unit as MCCR, and reported improvements in communication and data collection.

2. Utilization review

Best practices in utilization review aid the rest of the cost recovery process by maximizing collections through information validation. The following table summarizes the best practices C&L identified in both the private sector and the VA. Following this table is a description of the positive benefits of each best practice.

BEST UR PRACTICES IN THE PRIVATE SECTOR AND THE VA

Private sector.—Aggressiveness in processing; Use of claims tracking software; UR participates in medical staff meetings; UR conducts forums with cost recovery personnel; Precertification is performed in preregistration; Certifications conducted 7 days, 24 hours; and Denials are appealed within 48 hours.

VA.—Aggressiveness in processing; Use of claims tracking software; UR educates medical staff; UR staff dedicated solely to MCCR; and UR function located in MCCR business office.

Aggressiveness in processing.—An aggressive UR staff is critical to successful collections. Once it is determined that a patient undergoing inpatient treatment has insurance, the next vital step is to ensure that the required procedures will be covered by the insurer's policy. Because UR is a link between the medical care and business administration, UR staff is versed in medical terminology, patient treatments, and cost recovery information. Both private sector and VA medical centers that have aggressive UR personnel confirm more pre-certifications and successfully overturn more denials. For example, in Brooklyn, the UR nurse aggressively pursues and resolves most appeals in favor of the VA. Brooklyn has one of the lower percentages of dollars and number of bills outstanding to regional counsel at 13.57 percent and 6.43 percent, respectively.

Pre-certification for scheduled events is done in pre-registration.—This private sector practice is beneficial because it speeds up the admission process (for both inpatient and outpatient care) and gives advance warning of any insurance problems that might arise. The VAMC's currently do not perform any pre-certification during pre-registration activities.

Pre-certifications and certifications for unscheduled events are conducted 7 days a week, 24 hours a day.—Patients may need emergency admissions 24 hours a day, 7 days a week and may need pre-certification or certification for certain procedures. In private sector medical centers, UR is a continuous participant in the patient care process and can immediately confirm the need for care and the case for reimbursement.

Denials are appealed within 48 hours.—The faster the turnaround time on denials, the greater the possibility of fiscal recovery, and the lower the days in A/R. In the private sector, this is one of the final steps of an aggressive UR presence in the collection process, directly increasing the cash flow of the hospital.

Use of claims tracking software.—In all private sector medical centers and in some VAMC's, documentation of all reviews for admission, extended stays, and appropriateness of care are entered into claims tracking databases. The use of claims tracking and other support software creates an easy-to-understand record of all the activities handled by UR staff. By maintaining records in a database, personnel outside the UR function can easily access information captured by UR. Traceable patient care episodes and certification records from the third party payers result in reductions in rework and denials. The use of claims tracking software makes it easy for other cost recovery personnel to refer to specific cases. This way, personnel in collections are able to quickly recall and review records during the appeals process, rather than depending on written notes or commentary from UR staff.

UR participates in Utilization Management Committee meetings with hospital administration, medical records, and medical staff to provide feedback and information about insurance and hospital environments.—In both the private sector and the VA, UR is the liaison between the clinical staff and the collection staff. Private sector UR staff conduct quarterly (or monthly) UMC meetings with medical staff to explain any changes in the insurance environment, such as changes in insurance companies' coding policies, explanations for medical denials, and instructions on how to avoid denial situations in the future. In the VAMC's, UR staff try to overcome the lack of medical staff involvement by educating clinical personnel on MCCR functions and

the importance of timely PTF write-ups and cost-effective or certifiable/insurable treatment.

UR conducts regular forums with registration, billing, and collections to discuss changes in insurance policies, reasons for denials, and so forth.—In both the private sector and the VA, UR is also a liaison between collection processing and the insurance companies. Private sector UR staff conducts quarterly meeting with the people in collection processing to share information on any changes in insurance, types of denial, effects of missing or changing medical information, and ways to avoid denials in the future. In the VAMC's, UR nurses that are dedicated solely to MCCR can improve communication between insurance companies and collection staff, as well as assist in the overall collection process. For example, Cleveland and Marion VAMC's have UR nurses whose jobs are dedicated to the cost recovery process, enabling a strong working relationship within MCCR and with insurance providers.

UR function is located in an MCCR business office.—Unique to VAMC's, C&L found that medical centers that located the UR function in the same business office as the rest of the cost recovery team benefited both the UR staff and the billings and collections personnel. UR is readily available to confer with billing and collections on particular cases, and collection staff is able to assist UR with appeals. UR also has closer access to insurance verification and documentation, thus allowing a smooth process from pre-certification through the appeals process. For example, Seattle has located its UR nurse directly adjacent to the billers and collectors, thus enabling strong ties among the three functions.

3. Billing

Best Practices in billing increase the revenue stream for the medical center. Best practice efforts include human resources, processing, use of technology, and communications issues. The following table summarizes the best practices C&L identified in both the private sector and the VA. Following this table is a description of the positive benefits of each best practice.

BEST BILLING PRACTICES IN THE PRIVATE SECTOR AND THE VA

Private sector.—Hiring and/or training qualified coding personnel; Use of technology; Innovations for timely bill coding; Interim billing; Electronic bill generation; Specialized payer teams; Scanning software; and Relationship building with major payers.

VA.—Hiring and/or training qualified coding personnel; Use of technology; Innovations for timely bill coding; Interim billing; Electronic bill generation; Flagging inpatient files with insurance; and Scanning software.

Hiring and/or training qualified coding personnel. The private sector regularly hires certified Medical Records personnel for bill coding activities. This practice has several advantages, including: (1) ensuring consistency in the bill coding information; (2) removing the burden of coding from the clinical clerks and freeing up their time to concentrate on their other primary functions; and (3) reducing the number of mistakes and amount of re-work. In the VAMC's, training bill coding staff has resulted in more increased staff competency levels, more accurate bills, and less denials from technical errors. Accurate coding reduces the amount of re-work required in bill generation and increases the billable amounts by capturing more reimbursable care episodes.

Use of Technology.—The private sector establishes and maintains Chargemaster technology to improve its billing process. Chargemaster is a centralized electronic repository of contractual information on each insurance company and contains information on what each company would pay for various ICD–9's; on requirements for processes like pre-certifying level of care; on what tests are allowable under a certain policy's coverage, and so forth. The Chargemaster also contains insurance policy codes, insurance policy coverage, ICD–9 codes and CPT–4 codes that are used to electronically produce clean bills. The Chargemaster is updated with the latest information from the insurance companies and the rules for patient encounter reimbursement. It also requires constant maintenance because policies change on renewal and because all of the policy packages are not standardized. Similarly, some VAMC's maintain a master insurance database to house all insurance information. C&L found that those VAMC's that use a single point of data entry and file maintenance retained high levels of data integrity in their master insurance file. This practice is used in Reno, where a single MCCR staff member is devoted to maintaining the insurance files. The result is a low volume of rework for both billing and collections, and the ability to use autobiller with little technical difficulty.

Innovations for timely bill coding.—The private sector uses certified medical records staff to prepare bills correctly for the Chargemaster system. MR staff prepares bills accurately and quickly by pulling the codes from patient charts and

matching them with information in Chargemaster. The MR staff are specifically responsible for pulling out all of the chargeable codes from the patient file or forms, making sure the codes are present in the billing information for the Chargemaster, and moving the bill out of A/R within two days. In some VAMC's, coders reduce bill coding time by using the discharge instruction sheet to code inpatient encounters rather than waiting for the doctors to dictate and transcribe their discharge summary. The time it takes physicians to complete the summary can create a considerable amount of bill lag time. In Fayetteville, HIMS uses this practice and is able to close the PTF before the physician summary is completed. The result is a reduction in the time between discharge and the close of the PTF.

Specialized payer teams.—In the private sector, teams are set up according to payer type to handle inquires from specific groups, resulting in claims correspondence turnaround time of less than 48 hours. The team concept also allows collections personnel to specialize in a particular area of inquiry and to learn the various rules and reimbursement policies of a target group.

Relationship building with major payers.—Private sector hospitals have regular meetings with their primary payers and develop strong lines of communication. This gives two-way feedback and helps to avoid potential denials by better understanding where the payers are headed.

Interim bills for long-term and nursing home care.—In the private sector and in some VAMC's, long-term and nursing home care services are billed at regular intervals as opposed to one large bill at the end of the stay. Interim billing provides the cost recovery team with an opportunity to increase collections while alleviating the fear, confusion, and discomfort that patients often experience when receiving one large bill. Interim bills allow patient to better comprehend what they are being charged for and help in planning for their payments.

Electronic bill generation.—In the private sector, inpatient bills are produced within three days of discharge and outpatient bills are produced within 24 hours of discharge. The bills are sent electronically to the payers either through a clearinghouse or through EDI. This cuts down on postage, mail lag time, and review and denials, since the bills are produced in the payer's billing format and can run through their system. Only a few VAMC sites are currently using electronic bill generation, and in all cases, this is performed through use of an outside contractor.

Flagging inpatient files with insurance.—A practice unique to the VAMC's, flagging insured files allows the coders to give those files priority and complete them first. In Brooklyn, this practice significantly decreased bill lag time and resulted in an average of only three days for coding insurable cases.

Scanning Software.—Both the private sector and the VAMC's use scanning software to capture medical documentation needed for the billing process. For example, Reno developed a software system called Scan Man that can scan two sides of a document. This software allows encounter forms to be scanned into the billing records, thus speeding process time and reducing rework. In Reno, the use of Scan Man has allowed billers to focus their attention on producing and auditing bills rather than entering information off the encounter forms.

4. Collections

Best practices in collections were identified in the areas of processing, technology, and organization. The following table summarizes the best practices C&L identified in both the private sector and the VA. Following this table is a description of the positive benefits of each best practice.

BEST COLLECTIONS PRACTICES IN THE PRIVATE SECTOR AND THE VA

Private sector.—Outsourcing to collection agencies; Use of payer-specific teams; Prioritization of bills by dollar value; Aggressive follow-up on past due bills; Electronically posted payments; Copays and deductibles collected at patient discharge; and Receivable automatically posted at bill generation.

VA.—Outsourcing to collections agencies; and Billing and collections in the same location.

Receivables automatically posted at bill generation.—In the private sector, when a bill is produced it is automatically posted as a receivable. There is no lag time between bill production and posting, therefore, the days in A/R is reduced. The likelihood of human error in processing is reduced as well.

Co-pays and deductibles are collected upon patient discharge.—The private sector utilizes this practice extensively. It costs about eight times as much to collect copays and deductibles after a patient has left than it does if the patient pays the money at the time of discharge (or encounter). Labor costs, processing, paperwork, and postage are reduced or eliminated when collection is made "up front." There is also a much lower risk of default on payment if it is collected upon discharge.

Prioritization of bills according to dollar value.—High-dollar claims are given higher priority in private sector collection processes since they pump more cash into the revenue cycle if collected. Lower-dollar claims are given lower priority, but are still pursued.

Aggressive follow-up on past due bills.—Private Sector collections department calls four to six times at scheduled intervals to pursue delinquent payments. The national average for bad debt is about 1.3 percent. Aggressive follow-up reduces the Accounts Receivable greater than 90 days to about 10 percent.

Payments are electronically posted through bank lock boxes or electronic funds transfer.—Payments are sent to a contractor, or to the facility via electronic file transfer; at either destination the payment is matched to the bill and the account is closed or payment variances are identified. Payment processing is updated to A/R within 24 hours. Electronic correspondence speeds up the processing turnaround time, reduces labor costs, and removes the potential for human error.

Use of payer-specific teams.—Private sector collections teams are set up according to payer type, in order to utilize a specialization of knowledge about a payer group and to provide consistency of response for the hospital.

Outsourcing to collection agencies.—Low-dollar-value, delinquent claims are outsourced, as their recovery becomes cost-ineffective. These claims are contracted out on a "percentage of claims recovered" basis. In the VAMC's, Houston contracted out with a collection agency called Transworld that in 1997 brought in approximately $459,000 in collections for a cost of $10,125.

Billing and collections in the same physical location.—C&L found that placing billing and collections operations in the same location allows workers to easily confer with one another on particular cases. Collections has closer access to billing records and medical files than when the two processes are in separate locations and may easily draw upon the knowledge of billers familiar with a bill in question. Marion, IL, employed this principle: the billing and collections staff were located in connecting cubicles and were able to use one another as quick and easy resources.

B. CRITICAL SUCCESS FACTORS

During the 24 VA site visits, private sector interviews, and industry research, C&L identified recurring characteristics in successful revenue generating organizations. We were able to categorize these characteristics into 5 Critical Success Factors. They are: Leadership; Organizational; Structure; Technology; Accountability; and Human Resource Management.

The best practices C&L identified in both the private sector and in the VA have strong ties to these five critical success factors. In both cases, these high-performing medical centers utilized the critical success factors to develop best practices and effective cost recovery programs.

However, during VAMC site visits, C&L determined several areas in which the VA demonstrated shortcomings or difficulties in mastering the critical success factors. C&L performed an internal survey to identify these apparent shortcomings. The following discussion illustrates examples of the areas in which the VAMC's must improve as a group to increase their levels of performance.

AREAS FOR VA IMPROVEMENTS IN THE CRITICAL SUCCESS FACTORS

Leadership.—Internal marketing; leadership communication; leadership innovations; and external marketing.

Organizational structure.—Business office model; facility-level integration; and seamless operation.

Technology.— Local technical support; use available software; and technology integration.

Accountability.—VISN accountability; internal controls; performance measurements; and rework.

Human Resources Management.— Cross training; formal training; incentives or rewards; and overall MCCR knowledge.

1. Leadership

Leadership is the foundation and driver of successful revenue operations. It provides the strategic direction, planning, and standardization to make the process work. National, regional, and local leadership promotes process initiatives, develop goals and performance measures, and continually evaluate the process and make course corrections when needed. In addition, leadership is the initiator and manager of cultural change. Leadership areas in which the VAMC's can improve are:

Internal Marketing.—As a group, the VAMC's lacked strong leadership within MCCR and the VAMC administration. In more than 60 percent of the VA sites sur-

veyed, it was not apparent that the Director, CFO, Chief of Staff or the Chief of MAS were involved in promoting the MCCR mission within the hospital.

Leadership Communication.—More than 70 percent of the sites reported that upper-level management did not hold regular meetings to discuss MCCR issues and concerns. Additionally, communication between MCCR segment leaders and staff, such as UR and Collections personnel, was minimal at most VAMC's.

Leadership Innovations.—In more than 65 percent of the MCCR programs, it was perceived that innovative ways of improving cost recovery were not being sought. Additionally, when process changes did occur, they were poorly communicated. According to our survey, only 40 percent of process changes were communicated to the MCCR staff via memos, emails, newsletters, etc. In most instances, these changes were simply discovered while personnel performed their jobs.

External Marketing.—In 83 percent of the sites visited, neither the MCCR coordinator nor the CFO had ongoing working relationships with major payers. In addition, communication with leaders of local veteran groups, which could bolster veteran perceptions of the VAMC's as well as inform and educate the veterans of VA changes, rarely occurred.

2. Organizational structure

Successful operations have cross-functional, centrally managed organizations that enhance quality information by integrating sub processes into seamless operations. These organizations have single reporting structures that reduce instances of rework, reduce fragmentation, and increase effective communication. Areas for VAMC improvement are:

Business Office Concept.—According to our survey, it was apparent that a single reporting organization was in place at only 25 percent of the sites. All other sites had two to three decentralized management structures.

Facility-Level Integration Across Processes.—It was apparent that only 20 percent of the sites had process integration throughout the medical center. Most sites were disconnected across cost recovery processes, with little or no cross-functional activities.

Seamless Operation.—At the sites visited, it was apparent that only 20 percent of the VAMC's displayed a seamless cost recovery operation. In most cases, both processes and activities were broken and disconnected, and lacked the communication necessary to provide seamless information flows.

3. Technology

Technology is the enabler that supports revenue processes. It increases data integrity and accuracy, and supports the access and flow of information. The successful use of technology helps to streamline business operations through automation.

Local Technical Support.—It was apparent that only 50 percent of the sites visited had adequate technical support, although the MCCR program office does provide technical assistance for the MCCR process.

Use of Available Software.—It was apparent that 70.8 percent of VAMC's were currently using claims tracking software to communicate between cost recovery functions. However, this also means that almost 30 percent of the VAMC's visited are not utilizing such software. Communication through available software and data sharing through integrated technology are critical to the successful recovery of both inpatient and outpatient dollars.

Technology Integration.—Interfaces between IB and A/R software need to be upgraded so that VISTA, IB, A/R, and FMS all communicate with one another and effectively link patient data and billing information.

4. Accountability

Accountability is the means of tracking and measuring the people, activities, and systems involved in the revenue generation process. Management and staff are held responsible for their actions through performance measures and processes are monitored through control points. Areas for VAMC improvements are:

VISN Accountability.—Fewer than half of the VAMC's appeared to have a definitive sense of accountability to the VISN.

Internal Controls.—For 58 percent of the sites visited, no internal controls for data accuracy and staff accountability seemed to be in place.

Performance Measurements.—It was apparent that 52 percent of the MCCR coordinators did not use performance measurement tools to assess progress on a regular basis.

Rework.—Almost 50 percent of the MCCR employees interviewed agree that there is a high percentage of rework (> 10 percent) in many of the front-end cost recovery activities.

5. Human Resource Management

The investment in people which facilitates the success of the process by developing programs, clarifying employee roles, and instilling a true sense of the revenue generation process. HR either develops formal training or provides access to training and certification. They monitor evaluations and distribute incentives or discipline in conjunction with management. Areas for VAMC improvements are:

Cross-Training.—In more than 70 percent of the sites visited, it was apparent that they did not cross-train staff across cost recovery activities or provide other professional development opportunities.

Formal Training.—In the private sector, people are certified in AGPAM (American Guild of Patient Accounting Managers) and other organizations such as HFMA (Hospital Financial Manager Association). In contrast, 75 percent of the VAMC sites had no formal training or certification programs in place. However, some did report using CD–ROM training materials or periodic telephone calls to learn procedures.

Incentives or Rewards.—In more than 90 percent of the sites, no incentives or reward programs were in place.

Overall MCCR Knowledge.—It was apparent at 72 percent of the sites that, overall, cost recovery staff was not knowledgeable about all MCCR processes.

If the VA can successfully enhance their efforts and maximize these five critical success factors, then its cost recovery program will realize significant decreases in costs, increases in revenue, improvements in process efficiency, and increases in customer satisfaction. In the following section, C&L describes how the VA can realize these goals.

SECTION 6: THE OPTIMUM VA REVENUE CYCLE

Coopers & Lybrand's recommended design for the optimum VA revenue cycle encompasses two of the fundamental VA goals of the "30/20/10" program-reduction of costs and increases in revenue. The fundamental process improvements and organizational realignments will enable the VA to better recover the costs of NSC veteran health care from private health insurance and the veteran. At the same time, C&L's revenue cycle model creates a "most efficient organization" (MEO), reducing costs through process improvements, consolidation, and outsourcing options. Further, through the process improvements recommended in this report, C&L estimates that the revenue cycle will realize a 33 percent increase in collections; and estimates collections over $700 million by the year 2000. These estimated increases are derived from the revenue cycle's process enhancements and VA initiatives currently underway. However, these increased revenues do not account for any additional increases from initiatives such as the production of Medicare Remittance Advice or developments of reasonable charges for billing rates.

C&L based the optimum VA revenue cycle on the data gathered from both the activity based cost study and the best practices identified in Section 5. Additionally, while planning the optimum VA revenue cycle, we also considered the several other issues that are important to the successful redeployment of MCCR as discussed in earlier sections.

C&L recognizes the obstacles to the VA's revenue process. These include a declining and aging veteran population, increased HMO penetration, changes in how insurers process VA claims, shifts from inpatient to outpatient settings, and difficulty identifying care provided to veterans with service-connected disabilities for treatment of nonservice-connected conditions. The recommended revenue cycle is designed to mitigate the impact of these obstacles.

Further, C&L also acknowledges the political momentum to outsource the entire MCCR process. The motivation behind this momentum is the belief that private sector contracting would significantly enhance collection effectiveness. The "most efficient organization" does recommend centralizing some collection activities to internal or external specialists. However, C&L maintains that it is difficult to draw a true cost comparison between MCCR and private sector contractors until an MEO is established in place of current operations. Additionally, outsourcing can be in the form of either private sector contractors or VA franchising, whereby a VA center of excellence would provide a service for all the VAMC's. Because of issues such as procedural compliance, cultural changes, and lack of data integrity, the VA is not operating its cost recovery program at its optimum performance levels. Only after this optimum VA revenue cycle becomes operational within the next 24-month period can a formal cost benefit analysis be conducted.

Finally, C&L also considered the importance of the "critical success factors" described in Section 4. These five factors, leadership, organizational structure, accountability, technology, and human resource management must be the foundation of a high-performing organization.

A. SCOPE AND METHODOLOGY OF THE NEW REVENUE CYCLE

Overall, MCCR is a sound process very comparable to the private sector revenue cycle. Therefore, C&L's recommended design for the optimum VA revenue cycle represents "fine tuning" of the existing cost recovery processes through process enhancement, organizational realignment, process consolidation, and outsourcing of critical processes. Improvements will significantly increase collections and are practical enough for the VA to implement within the next 24 months.

The highlights of the new revenue cycle are:

—Focuses on decreasing costs and increasing revenues
—Leverages process improvements currently underway
—Standardizes processes across VAMC's
—Institutes pro-active insurance/veteran follow-up
—Consolidates crucial processes
—Improves front-end processes at VAMC's and VISN's
—Improves back-end processes by centralizing, franchising, or contracting

As we identified opportunities for process enhancements and reorganization, C&L considered the need for improvements in the five critical success factors as discussed in Section 5. The optimum VA revenue cycle promotes and sustains significant changes in these success factors.

Leadership.—The revenue cycle provides a standardized, comprehensive, and strategic business process that flows from a single executive management group. It establishes local, regional, and national integration of process leadership and provides mechanisms for continual process innovation by both executive management and program staff. Additionally, the revenue cycle installs uniform goals, objectives, and performance measures from a top-down process-driven approach.

Organizational Structure.—The revenue cycle installs a results-driven "business office model" that is cross-functional, centrally managed, and seamlessly integrated. In addition, it creates an accountable reporting organization, process action teams, consolidated process, and options for outsourcing to VA Centers of Excellence or private venders.

Accountability.—Above all, the revenue cycle standardizes processes across the VISN's and VAMC's. It installs control points to monitor the quality of work by staff and in the process with clearly communicated performance measures. In addition, it establishes priorities to reduce re-work, identify weaknesses, and eliminate errors in the process. Finally, the revenue cycle maps projected goals for improved performance metrics to be used as benchmarks for future performance and hold staff and the process responsible for accurate and efficient data flows.

Technology.—The revenue cycle utilizes significant Departmental investments in information technology. It integrates information technology at the national, regional, and local levels, assisting process consistency and standardization. Additionally, the revenue cycle streamlines business operations and communications throughout all process areas.

Human Resources Management.—The revenue cycle calls for the installation of standardized job descriptions for Business Office staff and incorporates orientation/training requirements for various process leaders to encourage the increase of knowledge capital. Further, it establishes employee incentive programs and performance measures at every process level. In addition, the revenue cycle creates a standard and consistent set of training and performance tools for all VA staff to reinforce the use of critical skills and core competencies.

Overall, these critical success improvements, process enhancements, and organizational realignments ensure that the revenue cycle is a practical yet optimal approach to decreasing recovery costs and maximizing revenue gains.

B. KEY ROLES AND RESPONSIBILITIES

C&L was tasked to recommend an "Optimal Configuration" for the MCCR operations with consideration to the analyses performed during our study. The five critical success factors, discussed previously, are the essential components of the optimal configuration, named the Year 2000 Revenue Cycle. The process flow shown in Figure 6–1 represents a program that can be achieved by the Year 2000 by implementing process improvements, adopting best practices from the VA and private sector and organizational realignment. This optimal configuration stresses the various roles and responsibilities that each of the participants must take, and the cooperative working relationships that they must nurture to succeed. The participants in the Year 2000 Revenue Cycle are as follows: Veteran, VA Medical Center, VISN, VA Franchising/Private Contractor, and National Program Office.

The roles and responsibilities of each participant incorporate VA initiatives currently underway. These initiatives target improvements in current MCCR sub-proc-

esses as well as the development of new sub-processes to effectively increase revenues while reducing operational costs. These initiatives include, but are not limited to:

—Increased Insurance Identification of Patients
—Full implementation of an Electronic Data Interface (EDI) for billing and collections
—Proactively pursuing third party claims
—Improving the accuracy of data capture through automation and training
—Production of medicare remittance advices
—Establishment of reasonable charges billing rates
—Centralized database for the management of 1st party debt
—Centralized 1st party debt management at VA's Debt Management Center

YEAR 2000 REVENUE CYCLE KEY ROLES & RESPONSIBILITIES

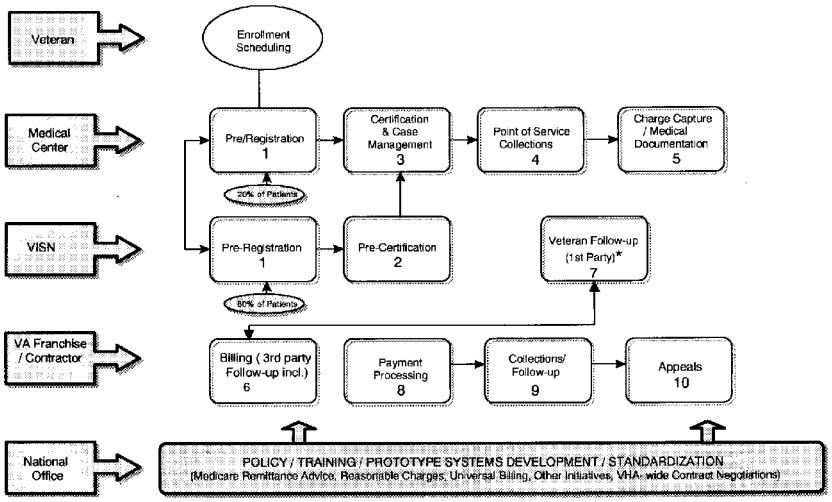


Figure 6-1

NOTE.—1st party follow-up for debt under 90 days is performed at the VAMC/VISN level; follow-up for debt 90 to 180 days is performed at the centralized VA Debt Management Center; and by law, debt over 180 days is referred to the Department of the Treasury.

THE VETERAN

Increased identification of billable insurance cannot happen without the willful cooperation of the Veteran. GAO pointed out that increasing the identification of Veteran insurance is dependent on "(1) the willingness of veterans to give VA complete and accurate information * * *, and (2) the thoroughness of VA efforts to obtain and verify the information provided."[1] While the efforts of the VA to improve the methods used to identify and identify insurance can be achieved, the Veterans have a responsibility to be forthright and provide any employer, income or insurance information when asked. However, the VA can influence the Veterans cooperation through increased communication and marketing efforts concerning the importance and benefits of providing private insurance to the VA.

VAMC

Registration

Each VA Medical Center within a VISN will have a decreased responsibility in registration as compared with today. Most patients will be registered through "pre-

[1] October 1997, GAO Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Veterans' Affairs, House of Representatives.

registration" operated by a VISN level group that will obtain and verify all necessary information prior to a patient's visit. VAMC's will need to be properly trained and staffed to handle registration activities for a small amount of patients that have not been pre-registered by the VISN. It will be the responsibility of the VAMC to continue providing the service of greeting the veterans upon arrival and ensuring that they receive the proper care and treatment.

Certification and Case Management

Certification and Case Management will be performed at each VAMC in the VISN. Pre-certification of patients, performed by a VISN group, will be available across each VISN to enable a seamless flow of responsibility between the VISN and VAMC. Patient medical records and SC/NSC status will be available on a VISN wide database to facilitate the transition between pre-certification performed by the VISN and Case Management performed locally by the VAMC.

Point of Service Collections

Currently, the VAMC's have responsibility to collect first party (Veteran) co-payments at the Agent Cashier or by mail. The Year 2000 Revenue Cycle suggests that the VAMC continue to collect first party co-payments, however, a systematic approach to collecting prescription and other co-pays at the point of service or distribution should be developed. The point of service collections is its own sub-process to stress the significance of performing this activity. It is significant because prescription co-pays represent small amounts of revenue but constitutes a significant cost to collect once the veteran is discharged. In other words, it costs more to bill and collect for prescription co-pays than the $2.00 per prescription co-pay. The collection at the Point of Service is typically a low dollar value, approximately $8 on average in fiscal year 1997, and will reinforce to the Veteran their responsibility to the VA.

Charge Capture/Medical Documentation

The data capture for patient care provided will continue to be performed at the local VAMC. The quality and speed of medical care and bill coding data capture must be improved. Based on the 24 VAMC visits, a significant difference in culture exists between the VAMC and private sector medical staff surrounding the emphasis on accurate and timely medical documentation. VAMC physicians are not provided incentive to perform this portion of their daily activities that will contribute to increased hospital revenues. One method of changing this culture is to develop a performance rating system which measures physician performance and compensation to the accurate and timely completion of outpatient coding and inpatient discharge summaries. Additionally, it is the responsibility of the VISN and the National Program Office to improve the technologies and tools necessary for better charge capture and medical documentation.

VISN

Processes performed by VISN-level groups represent those that can benefit from consolidation. These benefits come in the form of (1) cost savings since fewer staff, in total, will be required to perform the consolidated processes; and (2) standardization of processes. Standardizing the manner in which processes are performed, the method and frequency of training, and the use of technology will prove easier at the VISN level than at each individual VAMC within the VISN. Additionally, the necessary process improvements and implementation of new processes at VISN level groups may occur at a faster pace than at the VAMC's.

VISN consolidation does not imply one regional office where all consolidated MCCR sub-processes are performed. VISN consolidation can be performed at any of the VAMC's that will be responsible for performing a sub-process for the entire VISN. Therefore, it is possible to have VISN consolidated sub-processes performed at several VAMC's nationwide.

Pre-Registration

Pre-registration for the majority of patients, estimated at 80 percent, will be performed at the VISN-level. Pre-registration is the process of contacting scheduled Veterans two weeks prior to their appointment to gather income, eligibility, employment and insurance data. Unfortunately, much of the data currently being captured is for patients that have already received care at the VAMC. However, this process has proven to be a cost effective, customer friendly service that will result in increased revenue. The nature of the pre-registration process, in addition to the technology needed to verify insurance on-line and provide VAMC-wide access of this information, makes it an ideal candidate for VISN-level consolidation.

Pre-Certification

VISN-level consolidated of pre-certification leverages the pre-registration process by collecting pertinent medical information during the pre-registration interviews with the patient. A staff of Utilization Review Nurses or Technicians will obtain pre-certification from private insurers prior to the patient's visit to the hospital. This will lessen the burden placed on the VAMC's to complete pre-certification for inpatient and outpatient services. Additionally, a VISN-level group focused on pre-certification should be able to establish strong relationships with the large insurers in the VISN, which will reduce denied claims. For instance, in a recent study by the GAO[2] it was determined that most of the bills that the VA was unable to recover was appropriately denied. One of the reasons cited was care provided that was medically inappropriate. The Utilization Staff typically is responsible for determining whether care is deemed appropriate by the insurer to preclude the hospitals from generating an unrecoverable claim. Through continued training, consistent application of policy and procedures, and a better understanding of appropriate care; VISN pre-certification will have a positive impact on revenues and MCCR costs by eliminating the billing and potential appeal of inappropriate care.

Veteran (1st Party) Follow-up

Veteran follow-up is a proactive process of contacting veterans concerning 1st party co-payments for care provided. Assuming the point of service process is in place, these follow up calls concern means test and per diem co-pays. For 1st party follow-up on debt under 90 days, the customer service focus of the VA dictates that any contact with veterans concerning payment of co-pays should be from VA personnel. It is likely that this sub-process can be incorporated into a VISN-level initiative such as pre-registration. However, 1st party debt greater than 90 days should be referred to a nationally centralized franchiser/contractor for collection. The VA Debt Management Center could fulfill this role. Finally, per the Debt Collection Act of 1996, delinquent debt over 180 days must be referred to the Department of Treasury for cross-servicing and administrative offset.

VA FRANCHISING/PRIVATE CONTRACTOR

In C&L's determination, none of the current 13 MCCR sub-processes are inherently governmental. Therefore this claim provides the opportunity for any or all of the MCCR sub-processes to be contracted to a commercial vendor. Alternatively, the same sub-processes could also be performed by a VA Center of Excellence or "Franchise" that is responsible for providing a service for MCCR nationally. However, both quantitative and qualitative analysis is necessary to determine which sub-processes should be outsourced or franchised. C&L spoke with several contractors who provide service for some or all of the MCCR sub-processes. Several of these companies provided rates at which they will provide these services; however, these companies are accustomed to providing their services to hospitals whose patients have billable insurance. The mere fact that the VA can only bill for a fraction of its patients may significantly alter the rates that they would charge the VA. Without detailed discussion or negotiations with the contracting companies taking place, the determination of contracting and VA franchising was analyzed with the perspective of cost avoidance and adherence to current industry standards.

The capabilities, methodologies and prices of various vendors were obtained through discussions with six contractors (All Med, Trans World, Medaphis/BSG, Payco and, NEIC) as well as private sector hospitals (profit and not-for-profit) and their contractors. Additionally, C&L researched data and literature provided by healthcare and collections related agencies such as HARA, The American Guild of PAT Accounting Managers, The American Hospital Collection Agencies, and The Healthcare Financial Managers Association (HFMA).

Only three of the contractors contacted, Medaphis, NEIC, and Payco provided price estimates for the Revenue Cycle processes under consideration. The estimates provided were for performing either the billing and remittance functions or the entire process referred to as a "Turn-Key" solution. The contractor costs presented in Figure 6–2 are:

—Billing generation and distribution fees quoted as $0.49 for electronic and $0.89 paper compared to VA estimate of $1.69 (includes bill creation and audit)

—"Turn-Key" (covers entire process cycle, from pre-registration/registration through appeals) fees range from 8 percent to 12.5 percent of collections compared to 17 percent VA Revenue Cycle.

[2] October 1997, GAO Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Veterans' Affairs, House of Representatives.

Solution	Medaphis	NEIC	Payco	VA
Billing	Not quoted	$0.49/Unit (electronic) and $0.89/Unit (paper)	Not quoted	$1.69/Unit (includes bill audit and creation)
"Turn-Key"	Contingent Fee- **8% of Collections** (incl. estimate of 3% VA overhead factor)	Not quoted	Contingent Fee - **12.5% of Collections** (incl. Estimate of 3% VA overhead factor)	17% Collections

Figure 6-2

Three contractor estimates indicate Turn-Key Solutions and individual process alternatives:

Billing; Payment Processing; Collections

The Year 2000 Revenue Cycle recommends the outsourcing of 5 sub-processes: Billing, Payment Processing, Collections, Insurance Follow-up, and Appeals. These activities center on the bill generation and eventual deposit of dollars collected. These activities are standard hospital procedures that are easily transferable to a contractor. Electronic Data Interchange (EDI) is currently being used by several VA hospitals and is planned for deployment in several others. By using a contractor at the National or VISN level, the VA can avoid the additional costs of hardware and software integration necessary for successful implementation of EDI. At present, several contractors are electronically linked to private insurers to provide billing and remittance services for customers.

Appeals

Outsourcing the Appeals sub-process will require clear communication among the VISN, Medical Centers and contractor. Patient medical records including SC/NSC status, special consent and certification will be electronically stored and available to the contractor for their assistance with appeals.

3rd Party Follow-up

A contractor will perform follow-up with insurance companies for high dollar value claims. A case tracking system will be in place to provide the contractor with claims that represent a large portion of the accounts receivable. Follow-up is a measure that proactively attempts to collect revenue before it is delinquent.

Veteran (1st Party) Follow-up

Veteran (1st party) debt greater than 90 days should be referred to a nationally centralized franchiser/contractor for collection. The VA Debt Management Center could fulfill this role. Per the Debt Collection Act of 1996, delinquent debt over 180 days must be referred to the Department of Treasury for cross-servicing and administrative offset.

NATIONAL PROGRAM OFFICE

The National Program Office will be required to provide leadership to the VA field staff particularly during the establishment of the Year 2000 Revenue Cycle. National policies that affect the operations of the VAMC's as well as the contract negotiations with contractors and 3rd party providers will require the wisdom and experience of the senior leadership at the National Program Office. The local VAMC's and VISN's can benefit from National Office guidance with respect to: Standardization of a business office model; Establishment of incentives and rewards for VAMC personnel; Development of standardized performance measurements; Implementation of technological solutions; and Providing professional training nationally.

C. PERFORMANCE IMPROVEMENTS AND COST BENEFIT SAVINGS

A cost analysis of the Year 2000 Revenue Cycle was performed to estimate the potential cost savings from the recommended process improvements and organizational realignment. Cost savings have the equivalent impact of increased revenues on the VA system since any reduction in operating costs reduces the amount of collections needed to offset 10 percent of the total hospital budget.

Process improvements will translate into reduced cycle times to complete work activities. These same process improvements will improve the accuracy of work performed, which will have a significant positive impact on the percentage of re-work that consumes the MCCR staff.

These positive impacts to MCCR operations will also enable the VAMC and VISN to reach their primary objectives such as: Increased identification of insurance; Reduced accounts receivables; and Increased revenue.

The current cost to generate a bill (unit cost: $17.19) is projected to be reduced by 37 percent to $10.75 per unit. Unit cost represents the average cost to bill and collect for all types of claims, 1st and 3rd party. The projected unit cost reflects the roles and responsibilities as recommended previously in Section 6. The effect of outsourced sub-processes using private contractors and/or VA franchises are represented. At this point, the basis of this effect is from labor cost savings realized through centralization and streamlining of a sub-process. The projected costs for each sub-process represents the optimal cost that the VA MCCR should be experiencing through VA franchising or contracting.

Improvement in qualitative performance measures such as percent of re-work, performance accuracy, and internal customer satisfaction, which were collected through C&L surveys, reflect the projected cost savings. As processes are improved and organizational realignment realized, the accuracy of work will increase, re-work will be minimized and internal customers' (MCCR staff) satisfaction levels will go up.

VAMC REVENUE CYCLE

	AS-IS							TO-BE					
	PROCESS	Unit Cost	Cycle Time (Minutes)	Rework %	Perf Acc	Int Cust Sat		PROCESS	Unit Cost	Cycle Time (Minutes)	Rework %	Perf Acc	Int Cust Sat
		$ 17.19	**520**						**$10.75**	**300**			
INTAKE		**$ 6.39**	**62**										
1	Patient Reg	$ 4.26	38	14%	3.2	3.1	1	Pre-Registration / Registration	$4.54	42	10%	4.1	4.0
2	Ins ID	$ 1.21	7	19%	3.6	3.5							
3	Ins Ver	$ 0.92	17	13%	3.8	3.7							
U/R		**$ 0.91**	**100**										
4	Pre-Cert & Cert.	$ 0.47	49	7%	3.9	3.8	2	Pre-Certification	$0.21	20	5%	4.1	4.0
5	Case Mgmt	$ 0.43	51	6%	4.0	4.0	3	Cert. / Case Mgt.	$0.39	40	5%	4.1	4.2
BILLING		**$ 5.33**	**79**										
6	Bill Coding	$ 2.22	25	17%	3.5	3.4	4	POS Collection	$0.21	5	0%	4.0	4.0
7	Bill Generation	$ 1.87	24	9%	4.2	4.0	5	Chg Capture / Medical Docs	$1.86	20	10%	4.0	4.0
8	Claims Corr	$ 1.25	30	10%	4.0	3.9	6	Billing	$1.69	28	7%	4.2	4.0
							7	Ins Follow up	$0.26	15	0%	4.2	4.2
COLLECTIONS		**$ 4.32**	**203**										
9	Est of Rec	$ 0.75	4	4%	4.6	4.5	8	Pmt Processing	$0.42	10	4%	4.5	4.2
10	Pmt Process	$ 1.52	38	4%	4.5	4.2	9	Collections	$0.98	60	5%	4.0	4.0
11	Coll Coord	$ 1.66	115	6%	4.0	4.0							
12	Ref of Indebt	$ 0.39	46	5%	4.0	3.8							
APPEALS		**$ 0.25**	**76**										
13	Appeals	$ 0.25	76	6%	3.9	3.7	10	Appeals	$0.19	60	5%	4.2	4.0

D. REVENUE ENHANCEMENT

Increasing revenues in the short term, (fiscal year 1998), can be accomplished by leveraging key elements of the revenue cycle that will provide significant impact without major process or organizational changes. The key elements for this short-term revenue increase are defined as Leverage Points.

Leverage points represent basic, simple changes in the Revenue Cycle that have significant impacts on the overall goal of enhancing revenue. Based on fiscal year 1997 revenue data, C&L was able to project potential gains in collection dollars through utilization of these leverage points. C&L contends that VA can dramatically improve its collections nationwide by 33 percent and decrease "old" A/R dollars by 20 percent if it can: Identify Billable insurance; Reduce A/R days outstanding; and Produce accurate bills.

Identify Billable Insurance

As described in earlier sections, identification of billable insurance will allow for increases in billable episodes of patient care. Pre-registration is the best opportunity to identify 100 percent of registered veterans with insurance coverage. Consequently, establishing this process in every VAMC creates significant potential increases in collections.

REDUCE DAYS A/R OUTSTANDING

Reducing the amount of days of A/R outstanding will both increase overall collection amounts as well as decrease the amounts of old A/R dollars and overall collection costs. The revenue cycle, by improving processes vital to this leverage point's outputs, can potentially reduce dollar amount waiting to be collected. By focusing on activities such as reducing bill lag time, insurance follow-up, collection of co-pays, and aggressive A/R collections, the VA can realize these gains. Lower A/R days will increase the potential for maximum collection.

Produce Accurate Bills

Producing accurate bills will not only increase timely collections and reduce technical/medical denials, but it will also decrease billing cycle time and rework. In addition, C&L projects significant increases in overall collections. By improving bill coding activities and encouraging responsiveness from clinical staff, the revenue cycle will allow the VA to utilize this leverage point and its significant benefits.

Figure 6–4 illustrates the three leverage points and their estimated benefits. Additionally, the chart also describes the various actions necessary for the realization of these estimated goals.

FIGURE 6–4

Leverage Points	Output (Action)	Benefits
1. Identify billable insurance	• Focus concerted effort on identifying 100% of Billable Insurance • Pre-registration	⇒ Increase insurance identification from 17% to 20% ⇒ Increase collections by $75M nationally
2. Reduce days A/R outstanding	• Reduce bill lag time • Trigger insurance follow-up • Aggressively work A/R > 90 days • Collect 90% of co-pays via point of service collections	⇒ Reduce lag time by 25% ⇒ Increase collections by 10% or $50M ⇒ Decrease A/R by 20% ⇒ Increase collections by $ 45M ⇒ Increase 1st party collections by 15% ⇒ Increase 1st party collections by $ 10M ⇒ Decrease collections costs significantly
3. Produce accurate bills	• Improve accuracy of SC/NSC coding • Minimize inappropriate care bills • Itemize billing • Reduce rework • Increase credibility with payers	⇒ Increase collections by $10M

E. POTENTIAL RISKS AND CONSIDERATIONS

Due to uncertainties in the analysis of the optimal configuration of VA cost recovery (assumptions, estimates, outside factors, etc.), it helps to know potential risks that may be associated with the new model. There are five major areas of consideration that the VA must examine in determining possible risks. These areas of consideration are: Customer Service, Political Influences, Costs, Technology, and Timing.

The following are possible risks that may affect the success of the optimal configuration as related to these five areas of consideration.

CUSTOMER SATISFACTION

1. Adverse Impact on Veterans.—Because a main goal of reconfiguration is to increase revenues to provide better and increased services for veterans, one of the most crucial aspects of the optimal configuration is to continue the VA's high level of customer service. In order for reconfiguration to be successful, patients must continue to receive high quality care, accurate bills, timely financial advice, and a high level of customer service throughout the entire cost recovery process. The lack of any of these components of customer satisfaction would potentially be a serious risk to the overall success of the optimal configuration.

Extensive customer service training inter-woven with revenue cycle training as well as patient marketing and continuous quality improvement programs will mitigate this risk.

POLITICAL PRESSURES

1. Public Relations Concerns.—Veteran's Service Organizations (VSO) and Federal employee unions are the two groups that compose a large public relations concern for the VA. As an organization that primarily serves veterans, the VA is continually under the scrutiny of Veteran's groups to provide high-quality services to veterans. Under the new optimal configuration, it is possible that veteran organizations may misunderstand the efficiency changes as a swing in VA's primary motives from the health of the veteran to revenue enhancement. These groups may feel that they

need to step in during reorganization to ensure that the veterans' needs are still met and services are not cut. Additionally, because reconfiguration will mean the reallocation of labor resources, Federal employee unions may also be concerned with the reorganization of its members to new job positions.

2. Negative Congressional Feedback.—As a Federal Institution, the VA must always remain accountable to Congress. Congressional leaders may become concerned about the scope and intent of reconfiguration if interest groups and the general public in their districts raise questions about the VA. The health and happiness of the veteran is a major concern within Congress and the entire Federal Government, and therefore it is possible that negative Congressional feedback could occur if reorganization of VA cost recovery is not promoted and explained in light of its positive impact for the veteran and the entire VA.

Aggressive internal and external marketing, integrated with continual VA leadership communication with interest groups will mitigate these risks.

COSTS

1. Technology Costs not Absorbed by Current VA Initiatives.—The optimal configuration includes new technology not currently in use by the VA. However, there are several current VA initiatives to improve cost recovery technology that should absorb the costs associated with reconfiguration technology improvements. If these initiatives do not absorb the bulk of the new technology costs, there is a potential risk for increased technology costs. Additionally, any costs associated with upgrades and systems maintenance not absorbed by other initiative surpluses will also be a potential cost risk.

2. Overhead Costs Cause the "Cost to Collect" Amount to Increase.—Reconfiguration will include some overhead costs from the MCCR Central Office to manage new policy, training, and prototype systems development. Because these costs are necessary expenditures to improve cost recovery processes, they are included in the total "cost to collect" amount for the VA. Once implemented, these overhead costs should decrease from lack of need; if not, then there will be a potential risk of an increased "cost to collect" amount for VA.

Continued reviews of overhead costs and detailed technology cost assessments to minimize the impact on "cost to collect" will mitigate these risks.

TECHNOLOGY

1. Information Technology Integration May Prove Difficult.—In order for reconfiguration to flow smoothly, the transition to a completely integrated information system must occur. However, as with any large technology integration, problems may occur when systems are integrated. If such problems arise during integration, technology difficulties could prove to be a potential risk.

2. Software May Prove to be Unreliable or Unavailable.—The optimal configuration heavily relies on agreements with third party payers to provide software to increase the efficiency of the cost recovery process. If in the future this software does not fulfill the needs of the VA or necessary upgrades become unavailable or incompatible with VA systems, such issues would pose serious risks to the success of the optimal configuration.

Sound development of systems requirements and proven implementation techniques and methods will mitigate these risks.

TIMING

1. The Consolidation Process May Prove to be more Time Intensive than Perceived.—The optimal configuration calls for some consolidation of cost recovery activities at the VISN level. In part, the success of this consolidation depends on a timely and seamless process adaptation, including technology integration, with little disruption to needed business dealings. If this consolidation does become increasingly time intensive, then timing becomes a potential risk to cost recovery reorganization.

Extensive planning to map out time restrictions and minimize business process disruption will mitigate this risk.

F. SUMMARY OF THE OPTIMUM VA REVENUE CYCLE

Coopers & Lybrand's proposed design for the optimum VA revenue cycle enables the VA to better recover the costs of veteran health care from private health insurance. Additionally, the revenue cycle reduces health care recovery costs through process improvements, consolidation, and outsourcing options. As such, the revenue cycle fulfills two of the VA's goals as described in its "30/20/10" program. If imple-

mented, C&L contends that the VA will realize an estimated goal of over $700 million in collections by the year 2000. Additionally, these gains can be realized while improving the overall customer service provided to the veteran. The following summarizes the major benefits of the revenue cycle.

Cost Reductions
—37 percent cost decrease
—42 percent cycle-time decrease
—50 percent reduction in cost-to-collect
Revenue Enhancements
—33 percent net revenue increase
—40 percent third-party revenue increase
—15 percent first-party revenue increase
Process Improvements
—Focus on revenue
—Utilize new point-of-service collection at VAMC's
—Initiate pro-active insurance/veteran follow-up
—Create accountable charge capture process
— Emphasize VISN centralization of pre-registration, pre-certification, insurance follow-up
Customer Satisfaction
—Register veterans more quickly and efficiently
—Use telephone pre-registration to give veterans more privacy when discussing medical/financial information
—Develop first-party bill payment process that is easier for veterans to use
—Reduce rework and increase accuracy percentages

SECTION 7: RECOMMENDATIONS

A. CASH, PROCESS COMPLIANCE, REDESIGN (CPR)

Coopers & Lybrand recommends that VA pursue a three-phased program to remedy its lagging revenue cycle process. Known as CPR, the program is an effective approach for prioritizing corrective actions, leveraging resources and addressing all aspects of the revenue cycle process. Based on our preliminary recommendations on this subject, VA and its VISN's have begun planning for a CPR initiative across all VAMC's.

1. *Cash*.—With VISN sponsorship, immediately launch at each hospital a 6-month blitz on existing receivables (for services already billed) as well as a concentration on UR and charge capture (for services provided but improperly billed or not billed at all). Collect funds due VA and prevent further revenue losses. This will help VA accomplish its 1998 collection goal.

2. *Process Compliance*.—Through VISN leadership and action, immediately take corrective actions to bring hospital programs into full compliance with VA revenue cycle guidelines and regulations, as well as with established best practices such as those identified in this report. Also begin VISN-level consolidation of applicable front-end processes. This will help standardize operations, reduce costs, and strengthen all processes in the revenue cycle.

3. *Redesign*.—VA should continue the development of several consolidated applications, systems and operations. Attention should also be focused on removing some of the policy and institutional barriers that inhibit optimum performance. Depending on the results of the second phase, move toward greater reliance on contractors to perform back-end processes. This will help VA realize MEO status by the Year 2000.

B. ROLES AND RESPONSIBILITIES

We recommend that VA require the full commitment, participation and leadership of VISN and hospital executives in CPR. It has begun planning for this involvement through the creation of VISN revenue teams. In addition, central office executives must provide program support and continue the development of common tools and technology to leverage revenue operations. VA can no longer afford to abdicate revenue responsibilities to collection units alone. Revenue performance is everyone's business—in the same manner that delivering quality healthcare to the veteran is everyone's business. VA leaders should make the same investments in business functions that they have in clinical functions—leadership, innovation, human capital and technology.

The VISN's, central office and medical centers should all have clear roles in the CPR initiative. VA should assign the following roles and responsibilities for follow-up action.

VISN's

1. Take more active leadership roles in revenue cycle operations.
2. Hold hospital directors fully accountable, and incentivize them, for program compliance and revenue results.
3. Consolidate, as appropriate, revenue cycle front-end operations.
4. Adopt central business office models of organization.
5. Charter and appoint VISN Revenue Cycle Teams.
6. Train Revenue Cycle Teams.
7. Conduct VISN-wide CPR planning workshops.
8. Deploy Revenue Cycle Teams to medical centers to focus on: Realizing quick hit opportunities that will accelerate fiscal year 1998 cash flow; Implementing process compliance and long-term improvements toward achieving 30/20/10 goals.
9. Communicate activities to all stakeholders, including veterans, VA staff, third partypayers, VSO's and unions.

Central Office

1. Develop financial/revenue performance scorecard for VISN accountability.
2. Sponsor training for VISN Revenue Cycle Teams.
3. Support VISN CPR roll-out planning.
4. Provide technical expertise to VISN Revenue Cycle Teams, as required.
5. Continue technical assistance and training support for all revenue cycle operations.
6. Continue development of common tools and technology.
7. Press for full implementation of the MEO by the Year 2000.

Medical Centers

1. Hold all executive leadership and department heads accountable for revenue performance.
2. Assure program compliance by establishing internal control systems in accordance with Circular A–123.
3. Use the Diagnostic Measurement System to establish accountability.
4. Begin implementation of the central business office model.
5. Send top management team (financial, clinical, administrative) to VISN-wide CPR planning workshops.
6. Participate on VISN Revenue Cycle Teams.
7. Implement corrective actions.

C. MILESTONES

The timing of VA's revenue cycle improvements is critical for a number of reasons. First, considerable amounts of revenue are being forfeited because of ineffective MCCR performance. This is costing VA millions of dollars each day. Second, there are many quick-hit opportunities that Revenue Cycle Teams could realize in a few months. These should not be jeopardized. Third, the longer that VA permits insurance companies, as well as some veterans, to default on their financial obligations to the agency, the more entrenched this behavior will become. Fourth, with each passing day VA continues to lose credibility with even those payers who normally honor their obligations, but find it too burdensome and costly to do business with VA. Finally, VA is petitioning for the right to bill Medicare for NSC treatment to Medicare-eligible veterans. The Health Care Financing Administration (HCFA) has very stringent claims filing requirements as well as regulatory compliance standards. VA must soon correct many of its revenue cycle deficiencies in order to qualify for Medicare billing.

Given these circumstances, we recommend the following action milestones for VA to initiate both transformational and transactional improvements to the its revenue cycle operations. These milestones should be implemented in a cascading manner in order to produce maximum results.

MILESTONES

Timing	Action
Immediately	Comply with established MCCR program requirements and standards
Immediately	Announce an aggressive revenue streams follow-up initiative (completed)
Winter 1998	Create VISN Revenue Cycle Teams (in process)
Early Spring 1998	Train VISN Revenue Cycle Teams, each plan VISN-wide initiatives (in process)
Spring-Fall 1998	Deploy Teams to medical centers
Summer 1998	Report progress to Undersecretary for Health
Summer-Fall 1998	Realize quick-hit revenue opportunities
Fall/Winter 1998	Redesign VISN and medical center revenue cycle operations
Winter 1999	Implement Universal Billing System, Reasonable Charges, other national revenue initiatives
Continuous	Negotiate preferred provider, sharing, other revenue generating contracts
Spring 1999	Internally franchise and/or contract appropriate revenue processes
Year 2000	Implement MEO
Year 2002	Achieve 30/20/10

MEDICARE SUBVENTION

Senator MIKULSKI. Well, Mr. Chairman, I think you want to proceed in more detail, and I am going to yield that to you. I know there is a series of followup questions.

In the minutes I have before I need to depart, I think we need to know more about this and I do know that ultimately VA wants Medicare subvention to pay at least 10 percent. We have a whole lot of infrastructure issues. We have the computer issues and so on. But I think we all want to be in alignment with you.

Particularly then, what are the consequences by looking to Medicare when we are going to be deeply concerned about the solvency of Medicare? So, while we are looking to you and you go to Medicare, that is one issue. And the consequences on Medicare. And then there are the consequences on the collecting of private insurance which many veterans have. So, I think this takes more conversation.

PROCESSING CLAIMS

Mr. West, could you share with me, though, what we are doing to reduce both the backlog and the time to apply for benefits, particularly in the area of disability?

Mr. WEST. Well, the process is at a point where, in addition to trying to reduce the time, we are also trying to pay attention to the accuracy of the processing of the benefit claims, Senator, because otherwise it takes twice as long. There has been retraining. There has been an effort to have the processors take what I will call lifetime responsibility for the claim. Instead of it proceeding along a sort of an assembly line effort——

Senator MIKULSKI. Some take a lifetime to process.

Mr. WEST [continuing]. From one person to another, we ask the same person to be responsible for all parts of processing the claim. That allows us to have accountability. It is like the independent calendar for a judge. But it also allows that processor to take responsibility.

If I might ask Joe Thompson, our Under Secretary for Benefits, to say a little more about the details of exactly what we are doing. Would that be helpful?

Mr. THOMPSON. Senator Mikulski, there are a couple of things in the short term that are impacting our ability to get faster in a hurry. No. 1, is the business process reengineering, which is a complete restructuring of the regional office and the way they do business. That has an impact because the same people that process claims are now undergoing fundamental shifts. That is a transitory thing but it takes roughly 1 year for one regional office to complete that process.

The second thing—and this is past, but we still feel some of the residue of it—are the additional reviews for gulf war cases which were injected into the system through most of last year. That was a resource drain on the claims processing system.

And the third thing—and this is more of a long-range problem—is that the data was not as accurate as it could have been. We have begun to insist that regional offices report things exactly as they are, and that has been reflected in a higher count. Now, I do not think it is reflected in more time to process the claim, but the counts themselves are higher although I think they are more accurate than they were.

As we have gone through this and tried to get these claims done more quickly, we have also found that in some cases we have tried to do them too quickly because we have a serious quality problem. When we reconstructed our quality review program late last year and focused exclusively on disability evaluation type claims, our core business process, we found that the error rate was 36 percent. It is totally unacceptable.

Senator MIKULSKI. Absolutely.

Mr. THOMPSON. So, we are trying to push a lot through, and in the process of doing that, we are running into a quality problem.

As the Secretary mentioned, one of the keystones of what we are trying to do is put in place a series of measures that do not just look exclusively at how fast you are doing things. They also look at the quality with which you do it and how veterans feel about it, customer satisfaction, at the real costs of doing that business, and also how employees are developing in this process. Those five measures combined, we call a balanced scorecard.

Senator MIKULSKI. Well, we look forward to getting actually progress reports on this.

Mr. THOMPSON. Exactly.

Senator MIKULSKI. Again, we would like to talk in more detail.

Mr. Chairman, thank you for the courtesy of letting me go first, and I will submit additional questions for the record. Thank you very much.

PROCESSING COMPENSATION CLAIMS

Senator BOND. Thank you very much, Senator Mikulski.

While we are talking about veterans' benefits, the original estimate for fiscal year 1998 for processing compensation claims was 106 days. I understand the current estimate is about 150.

Talking about the quality problem, I understand that remands from the Board of Veterans Appeals continue to be very high, about 44 percent, which does emphasize the quality question.

Are these facts accurate in your opinion?

Mr. THOMPSON. Those are correct, Mr. Chairman.

Senator BOND. Given that it is currently taking about 150 days to process an original compensation claim, do you really believe that VA can meet its goal of 53 days by 2002?

Mr. THOMPSON. Not at the rate we are proceeding, no, I do not.

VBA'S ROAD MAP TO EXCELLENCE

Senator BOND. In a draft VBA report, Road Map to Excellence, it notes there has not been a consistent sense of urgency, of the need to change the way VBA does business. Mr. Thompson, can we count on you to bring that sense of urgency and get us into the 21st century?

Mr. THOMPSON. Yes; you can, Mr. Chairman. I certainly feel it myself and I would say anyone within striking distance of me will feel it equally as well. We have asked a number of people, close to 100 in total now, that work within VBA to get engaged in improving this system. We have one-half century old business process, and it served our Nation well for many years, from the Second World War to the present, but it does not work any longer. To bring about the change we need, we absolutely need that sense of urgency, and I promise you I will convey it.

PROCESSING TOBACCO-RELATED CLAIMS

Senator BOND. I hope to be back here again and talk with you next year at this time and we will be following up.

If legislation is not enacted disallowing tobacco related claims, how much additional funding do you need both for fiscal year 1998 and fiscal year 1999 to process such claims?

Mr. WEST. Let me say a word about that, Mr. Chairman, if I might, before Joe tries to answer. Obviously we have not made a calculation to that on the assumption that the legislation would pass, so that there is nothing in our budget or in our 5-year projection that shows the FTE's and the cost of those FTE's. There is also nothing in our budget for the projection that shows the cost of additional medical care that would result from a determination of service-connected disability.

I think that if one assumes that the $17 billion savings assumes about one-half million claims and for about every 1,000 claims or so—this is not the kind of calculating my folks want me to do. They would like to take a little more time on it, but if you assume what I understand to be the working assumption that it will take about 6 FTE's for each additional 1,000 of these claims, I think you begin to see rather quickly that we get up to a sizable number of FTE's and the dollars to support them. I think that is before you consider the additional kinds of infrastructure and support needed as well.

Joe?

Mr. THOMPSON. A real ball park figure would be about $5 million for every 10,000 claims.

Senator BOND. $5 million for every——

Mr. THOMPSON. Every 10,000 claims.

Senator BOND. There are about 500,000 claims. You are talking about 50 times that?

Mr. THOMPSON. Correct. That is over 5 years.

Senator BOND. A 5-year cost? If my math is correct, $250 million over 5 years.

Mr. THOMPSON. Correct.

Senator BOND. OK.

REDUCING PATIENT COSTS

Let me go back to the bigger question, Mr. Secretary. I noted the goals where you seem to be on track, but the objective of reducing per-patient cost by 30 percent by 2002—do you believe there continues to be enough inefficiency in the system that VA can, with no increase in appropriations, provide quality care and still increase the number of patients served?

Mr. WEST. I think we can accomplish the goal of not just maintaining care at the right level, but increasing the quality. In fact, I think realizing these efficiencies is essential to that.

To the specific question of is there room for those improvements to be made, I am going to ask Dr. Kizer to respond on the efficiencies.

Dr. KIZER. Senator Bond, I would just comment that many of the efforts that are underway to produce efficiencies are also directed at improving quality. I think health care is not unlike a number of other activities where high quality costs less. I also think that what we will see as a result of a number of efforts, that are directed at improving the quality of care, is, as a side effect if you will, reduced costs. So, I actually feel considerable confidence in the ability to get to that 30-percent reduced expenditure per patient over the next 4 or 5 years.

PROCESSING TOBACCO-RELATED CLAIMS

Senator BOND. Thank you very much, Dr. Kizer.

I just wanted to say that we are very pleased, at my request, to have the Budget Committee chairman drop by. I just wanted to fill him in briefly on the tobacco claims, the tobacco program. The Department of Veterans Affairs has not included a request for funding which would—just to process the claims would be about $250 million over 5 years. So, that is not included in the budget request.

We have in the VA some very bold statements about how we can serve more patients more effectively at less cost and stay within the numbers. So, in your continuing drive to make sure that we get the most for our money, we have the promise of these very able and distinguished representatives of the Department of Veterans Affairs that they are going to be doing that job.

I stated earlier that some of the assumptions in the budget were that research would come out of the tobacco settlement, which we know it will not. So, we are going to have to do some things to restructure the normal revenues to make sure that VA is taken care of.

I appreciate your great interest in this subject. I know you have other committee hearings to attend, but this is such an important area, I do appreciate your dropping by.

Senator DOMENICI. Well, Senator, let me just comment and not take the time of the professionals who are here and the Secretary. All of us within our distinctive value system insist that we take care of our veterans, and one of the most important aspects of it is the VA hospital system and the care it gives the veterans.

Frankly, we all know that there is lots of pressure everywhere on anything that is health related, and as the demographics of the Nation change, they change for you all too. We know what those demographics are going to do to Medicare. We know what it is going to do to Social Security 10, 15, 20 years out. We are going to have a bulge that is very, very big, and you are going to have added number of very, very old veterans obviously that are going to be coming along.

We want to do our share in the budget process, but ultimately it is left up to people like this chairman heading this subcommittee to work with Chairman Stevens to get an appropriate allocation from the total budget pie for what they have to do, and then do some real magic because it is very hard for people to understand how this committee has to pit veterans against space——

Senator BOND. The environment is where we keep getting beaten up.

Senator DOMENICI [continuing]. If they get $20 billion, $40 billion, $50 billion for their entire appropriations, then he has to do the balancing between these very tough competitive issues.

But that is the way it is in the appropriations process. Do not ask me why. It is not terribly rational, but any alternative is not so easy either because if you try to put certain items all alone in the appropriation bill, sometimes they do not get treated as well as they do when they are in a bigger committee with more exchanges and tradeoffs available.

But, Senator, thanks for all you are doing and we look forward to working with you.

Senator BOND. Thank you very much, Mr. Chairman. We very much appreciate your interest and concern in this area. I know of your longstanding commitment. We are delighted to have your concern.

ACCESS TO CARE

Returning to the question, Mr. Secretary, the Veterans Health Administration has downsized over 20,000 employees, and I just would ask you or Dr. Kizer, is the work force downsizing adversely affecting access, the needed care or the quality of care, and what actions have you taken to ensure that the quality and access are not compromised? The reason I ask this, we have heard some complaints that we will be forwarding to you. Some of the referral systems may not be working as well as they could. What is your overall assessment of that?

Mr. WEST. Well, I would note at the outset, Mr. Chairman, that, of course, we are reaching more veterans, 134,000 more. We are reaching them in more places. Outpatient clinics continue to open. My impression from my brief visits—I have already been out to, I

think, three or four in the brief time I have been here—is that we are getting good reports.

But specifically let me ask Dr. Kizer to respond more fully to you.

Senator BOND. Please, Dr. Kizer?

Dr. KIZER. I would reaffirm what the Secretary has said, is that last year we treated more patients than the VA has ever treated in the past. That would suggest, at least as one barometer, that access is getting better.

As you know, over the last 2 years, we have sited or are in the process of siting now close to 200 new community-based clinics, and I might add for no additional cost to the taxpayer, all from redirected savings.

I would also note that the quality of care, as measured by the same indices that are used in the private sector, has shown unprecedented improvements. Indeed, I can say, for example, on the health plan employee data and information set [HEDIS] measures that are commonly used, that on the comparable measures of VA and non-VA providers, that the VA is not only consistently and uniformly above or higher than what is provided in the private sector, but on most measures markedly higher than what is provided in the private sector.

So, I think that if you look at the numbers, not only has access improved substantially, but quality has improved substantially as well.

As far as the number of people or staff, as you know, for many years Congress and the budget specified a particular number of individuals that the VA had to employ, and it has only been in the last couple of years that we have actually built our budgets up from the ground determining, based on local input, what the right number of employees would be to provide that care. I think that you are seeing that reflected in the numbers of staff that are currently on board.

Senator BOND. It certainly makes sense.

CLOSING MEDICAL FACILITIES

Let me turn to another issue, broader issue. I requested the General Accounting Office last year to look into whether four VA hospitals were really needed in Chicago to provide medical services. I trust you have seen this draft report in which they said VA could effectively serve the Chicago veterans with three hospitals and save some $200 million over 10 years in reduced operation and maintenance costs.

It seems clear at some point that the VA must close hospitals in order really to reduce the cost. As the provision of services on an ambulatory basis increases, it gets increasingly difficult to justify the number of inpatient facilities VA operates today.

What is the position of the VA with respect to GAO's conclusion to close one hospital, and does VA have any long-range plans to close hospitals and other facilities?

Mr. WEST. Mr. Chairman, I have something to say on both of these. I am not sure, but Dr. Kizer may want to be more specific in his reaction to the GAO report.

Let me say that with respect to the specific recommendation of closing the hospital in Chicago, we do not have any plans to go close a hospital. Indeed—and this now goes to the long-range plans—as I read the efforts that have been underway in VHA, the emphasis is on needed or unneeded hospital beds. The question is making the best use of the resources we have, looking at what we need to do to in place outpatient clinics.

Will there some day be a closure of hospitals? I am not in a position to say that. I am in a position to say we will continue very carefully to examine hospital beds, and where they are unneeded or unused, we will close those. We are using the centers in different ways. We are trying to be more flexible, give ourselves more flexibility to accommodate the needs. As you know, we are opening the outpatient clinics.

Let me, let my expert say a word on that. Otherwise, my amateur explanation will be the only one on the record.

Dr. KIZER. It is a good one.

Mr. WEST. OK, then we will go with it. [Laughter.]

No, go ahead.

Dr. KIZER. The GAO report, as you probably noticed, while they came to that conclusion, really only looked at the two institutions, Westside and Lakeside, and they I think even acknowledged, if not in writing, certainly verbally that they really did not assess the other two institutions there. So, we have had this discussion with them.

We agree with them that we can provide care with fewer hospital beds, and the real issue is with the assets we have there—how do we get the best return on investment. We do not believe that the GAO report provides a complete enough evidentiary base to come to any conclusions. However, our take on it is to actually do a more thorough assessment. We expect to engage a consulting firm to actually look at the total array of assets in that area and come up with some recommendations for us.

Senator BOND. Gentlemen, you have been doing an excellent job of rationalizing the system of care. Obviously, closing a hospital, wherever it is, is a political hot potato, and unfortunately, I see a little bit of dancing rather than a willingness to take this head on. I agree that you have to look at your asset base, the utilization of those assets, but the GAO report does suggest and common sense would indicate and in a time when we are moving to more outpatient care, there may be some big, old hospitals in the system that need to be shut down or converted to another, better use.

I am asking you not to short circuit the analysis, but by next year, assuming we are all still here, give us an answer as to your plans to do the big slice and cut off unneeded hospitals or other facilities wherever they are needed.

Mr. WEST. Senator, I come from an institution that has closed facilities all over the world. I will not shy away from that if we have to.

Senator BOND. Closing a veterans' hospital is not easy.

Mr. WEST. But it is an emotional thing.

Senator BOND. Oh, clearly.

Mr. WEST. And for us, much more importantly, it is a question of the flexibility. Right now our attention is focused on beds.

Senator BOND. And I agree. I applaud you for going in that direction, but I notice because of the sensitivity, there is some reluctance to take the big step. I am suggesting that to continue on your path, you had best look at that, and the GAO gives us a general guideline.

VETERANS EQUITABLE RESOURCE ALLOCATION

Let me move quickly through some other questions. If you want to answer more fully for the record, do that.

But under the resource allocation system, the funds are distributed based on workload. We are hearing from other sectors that there are in managed care some tradeoffs between quality of care and the need to increase numbers of patients treated and the size of budget allocations. How are you ensuring that that does not happen in VA?

Dr. KIZER. Let me respond to that because I think those concerns—and I have also heard them—miss a few really basic and important points. We are measured by how well we provide care. We do not pay shareholders. If we increase patients, we do not get any increased funds for it unlike in the private sector. The more patients you recruit, the more premiums you get and the better you do fiscally. That whole financial dynamic does not apply in the VA. Whenever more patients are treated, we are treating them out of the same appropriation with perhaps some increased revenues from third party reimbursement, but all those go back into taking care of more patients.

There is a fundamentally different financial dynamic at play in the VA, and I think that changes the implementation and practicality of some of those same principles. I do not think many of the people who have voiced those concerns have thought through the situation fully and understand that whatever we do as far as savings, all that does is go back into care for more patients or doing a better job of taking care of current patients. It is a fundamentally different financial dynamic.

Mr. WEST. I would add something else, and that is throughout this process, especially VERA, as you know, Mr. Chairman, Dr. Kizer and the VHA have built in protections. If there were an indication that at a particular VISN has a special need for resources beyond those allocated, to assure quality VHA will intervene. So, we have a fail-safe. VHA has maintained a reserve.

Second, I would say we talk about savings because we have said that we expect to realize savings in terms of being able to finance health care in the future. But, in fact, this is about effective management of a system, of a center, of outpatient clinics, of VISN's. Effectively managed, better managed facilities give better health care.

Senator BOND. Bringing more users into the system, how are you ensuring that the new users are the ones most in need of the services?

Dr. KIZER. Well, again under VERA, the only funds that will be appropriated are for category A users. There is a priority, if you will, to bring in the service connected or the poor veteran.

Now, the strategy of bringing in the higher income veterans who may come with some revenues we think is really a win-win in the

sense that we think, for example, with Medicare, that we can provide care to those dual-eligible Medicare/VA beneficiaries cheaper than their care can be provided in the private sector—indeed, that is why we have agreed to that being part of the law—but still provide enough margin that we can use that to take care of more category A veterans.

So, the net effect should be not only a benefit to the Medicare trust fund, but also a benefit in that we can take care of more of those poor veterans who are not going to get care otherwise.

Senator BOND. I appreciate your description of the utilization of available resources. I was a little bit stunned to see a copy of the letter from one veterans hospital. It probably has already been brought to your attention. The letters went to local businesses encouraging them to send their employees who were veterans to the VA for drug testing, background screening, flu shots, and the like.

The letter said, "We would like to help you find ways to keep your money in your business where it belongs." They listed the outpatient clinic services with a really stunning statement that said, "Please consider what you are currently spending for these services. For eligible veterans, these services will cost you nothing."

Now, we want to make sure that everybody who needs service gets it, but do we need to be telling businesses to stop providing services so we can build our body count in VA? Would you like to comment on that practice, Dr. Kizer?

Dr. KIZER. Since that letter was brought to our attention, we have had some discussion with the individual involved and have hopefully oriented his thinking.

I think whenever you encourage people to be entrepreneurial and innovative and do things differently—and we certainly appreciate your support in encouraging that dynamic in the VA—that can be manifested in a number of ways, some of which need guidance before it gets operationalized.

Senator BOND. I think that is a good idea. [Laughter.]

MONITORING WORKLOAD INCREASES

In the testimony that GAO presented for the record last year, they said, "We are concerned that some networks may be inappropriately increasing their workload numbers to get more resources under VERA. Networks may be increasing workload by increasing the number of one-visit patients."

I know that this is an anecdotal—I hope this is the one anecdote, but how are you monitoring workload increases throughout the system to make sure there are not similar problems?

Dr. KIZER. Basically we are looking at the workload, looking at the numbers, as well as what the utilization of services are by those veterans. Insofar as VERA is predicated on an historical 3-year user base, whatever may have occurred and triggered the specific response by GAO last year, there is time to look at it and adjust accordingly. That is part of what we are doing right now as we look at VERA in fiscal year 1999, what the impact and actual subsequent utilization by some of those individuals will be.

Senator BOND. Do you see any danger? Do you have any concern of over-enrolling veterans, promising care to more veterans than you have resources for? Do you have some mechanism to ensure

that the networks do not overenroll and that you still will have sufficient resources available?

Dr. KIZER. A couple of things I would say. Concern. Yes, there is always concern certainly in this agency or in Government in general.

One of the reasons why we are doing what has been characterized by some as a, quote/unquote, dry run with the eligibility this year is to actually inform us so that, when we go on line in October 1998, that we will have a pretty good assessment of exactly what the numbers will be and how far down the statutory priority list we can reasonably go.

Having said that, I would also note, as the Secretary commented a moment ago, that we also maintain a reserve at headquarters, and each network is required to maintain a reserve, 2 percent of their operating budget. So, there are some mechanisms built into the system that should expenditures exceed projections, as we move through the year, there are some ways of dealing with the problem.

Senator BOND. The good news is we are going through the long list of questions to see those which do not need to be asked here. The bad news is we intend still to ask them for the record.

But thank you very much for your time.

Mr. Secretary, do you wish to make a comment?

MEDICAL RESEARCH

Mr. WEST. I just wanted to note one thing for the record, Mr. Chairman. You have expressed several times about our research program and how it will be funded. I think I particularly owe you an apology since in my written testimony I refer to the increase in research funds as being part of the President's fund for research and thus in some way tied to more unsure sources. In fact, our request for $300 million in our budget is a request for an appropriation that does not change with respect to how that works. This is a part of our regular budget request to you.

Senator BOND. We intend to work to get everything we can to do that. I was delighted to see—the figures that I saw show the NIH grants going up from $220 million to $250 million.

Mr. WEST. Yes, sir.

Senator BOND. Senator Mikulski and I believe very strongly that the research component is vitally important, not only for the direct benefits or the research, but for the caliber, the quality of physicians and health care providers that it attracts to the VA.

ADDITIONAL COMMITTEE QUESTIONS

I thank you, Mr. Secretary, gentlemen. It is good to see an old friend again, Togo. Glad to work with you.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR BOND

VETERANS HEALTH ADMINISTRATION STAFF REDUCTIONS

Question. For fiscal year 1998, VHA will be cutting its workforce 4,317 FTE more than originally planned for fiscal year 1998. How much are you saving as a result

of these additional staff reductions, and what is VA doing with the savings? For fiscal year 1999, VHA projects additional staffing reductions of 2,589 FTE, according to the budget justification. Is it expected that VHA will, in fact, reduce staffing more than 2,589 estimated in the budget?

Answer. The reengineering of our VA healthcare system has resulted in improved service delivery and improved quality through shifting from inpatient to more clinically appropriate care settings. In doing so, the VISN's have retailored their workforce. Since 1994, VHA staffing has been reduced by 11 percent. During the same time it has treated more patients than ever before (including 8 percent more psychiatric/substance abuse patients and 19 percent more homeless patients), and VA's quality of care has dramatically improved. VISN's have placed continued emphasis on reaching strategic management improvement targets, which include reducing per patient costs and increasing workload. The impact on FTE exceeded original budget estimates for both fiscal year 1997 and fiscal year 1998. Reflecting the field's latest spending patterns, the revised estimate for fiscal year 1998 moves $177 million originally estimated in personal services to other operating costs areas such as drugs and medicines, communications, prosthetic appliances, equipment and maintenance. In developing the fiscal year 1999 estimate, we took this into consideration, and, at this time, stand by our budgeted estimate for FTE. We do not know when the total employment will level out, although we do expect improvements to continue and healthcare delivery to change in the future. Because of the 5-year straightlined appropriation, we can and must increase our reliance on alternative revenues in the future. As we progress through this 5-year period, it is anticipated that the changes will become more predictable. So, for the next year or two, we believe our budget distributions, although estimated as precisely as possible at the time, are likely to change.

VETERANS EQUITABLE RESOURCE ALLOCATION (VERA)

Question. Fiscal year 1998 is the first full year of implementation of the new resource allocation system, VERA. In some networks there are concerns about the adequacy of resources, as network budgets may decline as much as 5 percent. Do the "hard-hit" networks have adequate plans in place to accommodate the proposed budgetary reductions for fiscal year 1999?

Answer. VHA has a strategic planning process. Each network receives budget projections that form the basis for planning. Networks use this information to formulate plans for the target year as well as future years. VHA expects to release projected network allocations for fiscal year 1999 in June 1998 so that networks have ample opportunity to adjust their plans. For fiscal year 1998, VHA has taken several steps to cushion the impact of funding shifts. In addition to capping the amount of funds shifted out of a particular network, the Under Secretary for Health has retained a reserve and has required that each network maintain a reserve so that networks or facilities that are "hard-hit" can continue to meet patient care obligations. For fiscal year 1998, all Network Directors have indicated that, with the release of the reserve, their networks will be financially able to implement their plan for the current fiscal year.

Question. What is VA doing to address concerns that VERA may not be an equitable method of allocating resources, and what "fine-tuning" of the model is anticipated for the future?

Answer. First, GAO has conducted an extensive review of VERA. Their September 1997 report stated that "* * * VERA allocates more comparable amounts of resources to the 22 networks for VA health services users * * * than the resource allocation process it replaced" and VERA "improves equity of regional allocations". Secondly, the Under Secretary for Health has taken steps to ensure that VERA is a sound basis for allocating VHA's healthcare resources and to refine the methodology for future years. In this regard, the Chief Financial Officer has retained Price Waterhouse LLP to evaluate whether VERA is sound and is meeting its stated objectives. The contractor has presented a final draft report to the Under Secretary for Health. Findings indicate that: VERA's conceptual underpinnings are sound; VERA's methodological underpinnings are sound; and overall, VERA is meeting its specified objectives. Price Waterhouse made several recommendations concerning technical and process issues and offered suggestions for immediate and long-term improvements. VHA is reviewing these recommendations in tandem with recommendations put forth by several workgroups that will "fine-tune" the VERA model for fiscal year 1999 and beyond.

Question. Will the current VERA model be used for allocating resources in 2000 and beyond?

Answer. VHA plans to use the VERA model for allocating resources to the 22 networks in 2000 and beyond and will continue to make necessary adjustments and refinements.

Question. In testimony for the record last year, GAO said "we are concerned that some networks may be inappropriately increasing their workload numbers to get more resources under VERA. Networks may be increasing workload by increasing the number of one-visit patients." How are you monitoring workload increases to ensure they reflect changes that are consistent with VA policy?

Answer. Efforts are ongoing to accurately identify and monitor workload changes in the various networks across the country. First, upon the implementation of VERA last April, the Under Secretary for Health directed that quarterly special care patient workload tracking be immediately undertaken by the VHA Chief Financial Officer. These quarterly reports are analyzed to ensure that special care patients are not being adversely affected by VERA funding shifts. This information is shared with the Network Directors. Also an analysis was conducted on the number of basic care patients that used the VA once during a 3-year period fiscal year 1994–1996. The analysis showed that for this 3 year period, there is little variation among networks from the average number of single encounters and the number of single encounters seem to have little bearing on VERA funding shifts for the fiscal year 1998 network allocations.

Question. How do you ensure that networks have a common understanding of VA wide goals and legislative requirements?

Answer. The Under Secretary for Health has widely distributed throughout VA, and to various stakeholders, several publications that present goals and legislative requirements, for example, "Vision for Change", "Prescription for Change", and "Journey of Change." Goals and requirements are also disseminated via regular system-wide conference calls, monthly Network Director meetings, and through Policy Board issuance, directives, and performance measures.

Question. What is the key information that VA headquarters receives concerning network activities to identify problems or potential problems?

Answer. VHA has established a performance-based measurement system in which all Network Directors are held accountable for specific performance measures. These measures address factors, such as cost, access, quality, customer satisfaction, patient functional status, workforce development, and research. These measures have been incorporated in Network Directors' performance agreements for fiscal year 1997 and fiscal year 1998. This measurement system is designed to assure that VHA provide quality service, in the most appropriate setting, and in a cost efficient manner. The measures are monitored on a quarterly basis. As an example of the type of information that VHA Headquarters tracks, the results for 1997 show a reduction of 29 percent in acute bed days of care per 1,000 users and a decline in operating beds of 21 percent along with an occupancy rate of 78 percent.

Question. What steps is VA taking to ensure that networks allocate resources to facilities so that veterans have equitable access to care?

Answer. While VERA is a mechanism to allocate the Medical Care budget to the 22 networks, the Under Secretary for Health has also issued guidance to the Network Directors regarding resource allocations to facilities. A VHA Directive, published in October 1997, establishes that the allocation of resources at all levels should be guided by principles that move the organization toward accomplishing its system-wide goals and objectives. Network allocation systems must incorporate these principles:

—Be readily understandable and result in predictable allocations.
—Support high quality healthcare delivery in the most appropriate setting.
—Support integrated patient-centered operations.
—Provide incentives to ensure continued delivery of appropriate special care.
—Support the goal of improving access to care.
—Provide adequate support for the VA's research and education missions.
—Be consistent with eligibility requirements and priorities.
—Be consistent with the network's strategic plans and initiatives.
—Promote managerial flexibility and innovation.
—Encourage increases in alternative revenue collections.

The networks have used these principles in providing fiscal year 1998 allocations below the network level.

Question. Inspector General audits have found that key data in VA in financial and management systems is often erroneous, including inconsistent or inaccurate reporting of such basic information as patients treated in VA medical centers. Allocation of resources under the Veterans Equitable Resource Allocation (VERA) model is fundamentally workload based. Given the history of inaccurate workload reporting, and the potential that hospital management may exaggerate or inflate workload

reports to obtain additional funding, has VHA established controls to ensure they have accurate data?

Answer. We have had an ongoing data validation process under the VERA system that is being strengthened with the establishment of a new technical data integrity workgroup for the fiscal year 1999 VERA allocation process to validate the VERA workload and expenditures in the 22 networks. This work group comprises members from various networks and facilities across the country. We have no indication that medical center management is exaggerating or inflating workload reports to obtain additional funding. We acknowledge that our data is not perfect and we are constantly working to make data validity improvements for a credible resource allocation process.

Question. The Veterans Equitable Resource Allocation system allocates funds based on two prices—a basic price and a special care price. The special care rate—which was about $35,000 last year—is provided for a number of categories, including long-term care. Yet VA cannot care for veterans in VA or community nursing homes at this rate. I understand that as a result, in some areas access to nursing home care has been reduced. Do you believe the VERA model adequately addresses the need for long-term care services?

Answer. The VERA model itself is not causing a reduction in access to nursing home care. In the fiscal year 1998 VERA process, the national price for Special Care is $36,960 per patient per year. There are 29 special care workload classifications in the VERA model, including several classes that have long-term care patients in them. The fiscal year 1996 expenditures per patient for the 29 special care classes ranged from a low of $15,161 for AIDS Category III to a high of $246,916 for Heart/Lung Transplants. Under VERA, resources are allocated to the twenty-two networks and system-wide the aggregate funding is adequate to meet the special care needs of the veterans who use the VA healthcare system. As VHA continues to review and refine VERA, appropriate study and consideration will be given to adjustments in workload classifications and/or workload pricing in the Special Care component, as well as the Basic Care component of the VERA model.

LONG-TERM CARE FOR VETERANS

Question. What is VA's strategy to ensure adequate capacity for long-term care as the need for nursing home care for veterans increases? VA's long-term care spending represents about 13 percent of VA health care expenditures. Is this adequate to meet the long-term care needs of Category A veterans who seek VA nursing care?

Answer. In November 1996, VA established the Federal Advisory Committee on the Future of VA Long-Term Care to make recommendations to the Under Secretary for Health on the issues raised in this question. The Committee has completed a comprehensive review of VA's extended care programs and has studied the alternatives for meeting the increasing care needs of the aging, chronically ill and disabled veteran populations. Presently, the Committee is finalizing its report, which will be issued next month. Following a broad study and review of the Committee report by VA stakeholders, the department will be able to outline a national policy for all long-term care services.

UNIQUE PATIENTS

Question. VA underestimated the number of patients who would be served in fiscal year 1997 by 200,000. Also for fiscal year 1998, it appears more veterans will be treated than originally anticipated. How did VA manage to increase patients 7 percent above the estimate? How were the patient increases financed?

Answer. The actual number of unique patients in fiscal year 1997 increased by 205,000 over the original estimate for fiscal year 1997. More than 91,000 of the 205,000 increase represented an improvement in our ability to count unique patients. For the first time, the fiscal year 1997 actual count includes CHAMPVA—40,000—and Readjustment Counseling—51,000—patients not previously counted. Now the patient count is more in line with the dollars for these programs which have always been included in the budget. The remaining increase of 114,000 patients is mainly due to increased primary care patients treated on an outpatient basis. Savings generated from faster than anticipated inpatient care reductions and shifted to more clinically appropriate care settings have financed the increase in primary care patients.

HEALTHCARE ENROLLMENT SYSTEM

Question. VA is in the process of developing an enrollment system. Apparently there is a great deal of confusion as to what enrollment will mean. Some veterans

believe they could lose their eligibility for health care benefits if they do not enroll by October 1st. Could you explain VA's enrollment system, and whether any veterans will lose care if they don't sign up by October 1, 1998?

Answer. The Department of Veterans Affairs (VA) is required by law to establish an enrollment system for health-care services to be in place by October 1, 1998. While most veterans must be enrolled to receive care, it does not mean that veterans who have not applied for enrollment by that date will lose their eligibility for VA health care. Veterans can apply and be enrolled at the time they are in need of VA health care. Veterans who have received VA health-care services since October 1, 1996, will have an application processed automatically on their behalf. The "rolling enrollment" system being implemented means that any veteran can apply for enrollment at any facility at any time during any year. There is no deadline for applying for enrollment. Veterans can make application for enrollment at any time that they come to a VA medical facility for care, even after October 1, 1998. Further details of the VA enrollment system will be included in proposed VA Regulations to be published in the near future.

After October 1, 1998, some veterans may still be treated without being enrolled. Veterans with service-connected disabilities may be treated for those disabilities, veterans who are rated with 50 percent or greater disability may be treated for any condition, and veterans who were discharged or released from active duty for a disability incurred or aggravated while on active duty may be treated for that disability within the first 12 months after their discharge.

Question. Is there any danger of over-enrolling veterans next year—and promising care to more veterans than resources will provide for? How will you ensure that the networks don't over-enroll and that sufficient resources are available to serve all enrolled veterans?

Answer. VHA will closely monitor the applications for enrollment this year and every year thereafter. We will consider a number of factors, e.g. number of applicants by priorities, their estimated utilization and expenditures, as well as resources available for their care. Veterans will be enrolled from the applicants this year starting with priority one through successive priorities as far as resources permit. The Under Secretary and Secretary will decide through which priority veterans will be enrolled nationwide and this will be announced in the Federal Register each year.

Question. How will the enrollment system be used to ensure that the highest-priority veterans receive care?

Answer. If resources appear to be short, or unusual demand for enrollment occurs at times for the higher priorities, VHA will continue to enroll the higher priority veterans and may not continue enrollment of the lower priority veterans. VHA will also establish a contingency fund to cover unpredictable events.

Question. How many veterans have enrolled during the first 6 months of the enrollment season (October 1997—March 1998)?

Answer. No veterans have been formally enrolled as yet. VHA has been accepting enrollment applications since October 1, 1997. VHA is currently analyzing information on applications for a report to Congress due April 30, 1998. Veterans will be enrolled beginning in June.

Question. Will VA use priority group status to turn away enrolled veterans if VA determines during fiscal year 1999 that resources are insufficient to serve all enrolled veterans?

Answer. VA does not plan to turn away enrolled veterans for care. Once enrolled, veterans will be provided the same comprehensive range of services. If resources become constrained or increased new demand by higher priority veterans occurs, VA may not continue enrollment of the lower priority veterans. VA expects to give veterans 60 days notice before their enrollment is terminated.

WORKER'S COMPENSATION IN THE DEPARTMENT OF VETERANS AFFAIRS

Question. At about $140 million per year, VA has the second largest expenditure of all government departments for worker compensation. What efforts are being made to substantially decrease the amounts paid and get undeserving or fraudulent recipients off the rolls and thus make more money available for medical care?

Answer. While VA's expenditures for workers' compensation are larger than those of most other government departments, it should be noted that VA's costs are consistent with its larger number of employees.

VA shares the concerns of Congress and has for many years aggressively pursued reductions in the cost of workers' compensation. VA's OWCP costs and the number of cases receiving compensation have decreased each year since 1994. In 1994, we had 18,054 cases at a cost of $145.5 million; in 1995, 17,339 cases at a cost of $143

million; in 1996, 16,514 cases at a cost of $140.7 million; and in 1997, 15,724 cases at a cost of $136.6 million. This is a decrease of nearly $9 million and 2,330 cases in 3 years.

This decline is attributable to aggressive pursuit of cost awareness in the form of charging the expense back to the employing facilities rather than funding the payments centrally; extensive training of field site personnel in detecting the warning signs of fraud and abuse; and better, more timely information through VA's WC/Safety Tracker (a computerized tracking and management information system).

VA's WC/Safety Tracker is recognized as one of the best OWCP/Safety tracking systems available and has been purchased by GSA, NASA, DOJ, and the Army Medical Command. The Army Medical Command alone operates approximately 170 medical centers. Other Federal agencies have also expressed an interest in purchasing the system.

A comprehensive workers' compensation training program is conducted quarterly for 40 students per session at VA's Little Rock Education Center. This 40-hour seminar consists of face-to-face training with expert faculty from VA Central Office, DOL, and field facilities. Additionally, on-site training is also provided to various employing facilities for managers and supervisors.

THIRD-PARTY COLLECTIONS

Question. VA's budget depends heavily on the collection of third-party payments, estimated to total $677 million in fiscal year 1999. For fiscal year 1998, VA is behind estimates by 10 percent. Do you stand behind your fiscal year 1998 and 1999 estimates?

Answer. Yes. VA believes it will meet recovery targets for these years. It is expected that the 10 percent will be collected in later quarters.

Question. What will happen if you do not meet your targets in fiscal year 1999—is there any danger that VA will not be able to care for the number of veterans you have projected, or that quality will suffer?

Answer. VA will be closely monitoring the collections in fiscal year 1999. If at any time we do not believe that we will reach these goals, we will take immediate action to notify, and work with, the Administration and the Congress to ensure that adequate funding is provided for the healthcare of our nation's veterans.

Question. According to GAO, reaching your long-term collection goals will be difficult for a number of reasons—including VA's increasing reliance on less-costly outpatient care, and veterans increased enrollment in HMO's, from which VA cannot recover costs. Further, GAO found that VA was unable to provide an analytical basis for its recovery projections. How can we have confidence in VA's ability to recover these costs?

Answer. GAO completed their review in July 1997. GAO's analysis is largely based on reviewing bills from fiscal year 1996. Since that time, VHA has made a great deal of progress toward the goals of implementing efficiencies. Physician education, and strengthened utilization review of patient care procedures based on healthcare industry standards will help to reduce the cost of care by 30 percent. The result of increased efficiency is that fewer claims are denied by insurers as inappropriate. Also, the Networks are placing greater emphasis on appealing denied claims.

VA is also pursuing Medicare remittance advice, which will provide adjudicated claims to supplemental carriers.

With respect to HMO's, VHA is placing emphasis on providing a seamless continuum of care through better integration of VA resources and strategic alliances allowing VHA to participate as a provider in other health care systems. In addition, traditional HMO's recently began offering their enrollees point of service contracts allowing enrollees to obtain health care outside the HMO network if the enrollees agree to bear larger copayments. Aggressive identification and recovery from these HMO plans is being pursued. VHA is moving aggressively to become the provider of choice.

The Balanced Budget Act of 1997 (Public Law 105–33) allowed VA to retain the medical collections formerly returned to Treasury. There is an important culture change occurring, resulting in increased motivation to collect. VHA also received authority to implement reasonable charges. One of the major opportunities for increases in third-party recoveries resides with the ability to implement billing rates based on reasonable charges. This will allow market prices for actual services provided and the development of a Diagnosis Related Group (DRG)-based per diem rate schedule for inpatient care to be used with an automated multiple rate schedule pricer. Outpatient procedure rates are planned for late in fiscal year 1998.

Question. The Inspector General (IG) has issued reports pointing out that VA is not effectively using the authority it has now for collections. For example, the IG

found in its report on Means Testing and Income Verification that staff is failing to collect income information, actually inserting "zero income" in many instances to get workload credit but failing to identify patients who should be billed for medical care. What actions are you taking to identify veterans who should be billed and improve your rate of collection?

Answer. Both national and local initiatives are underway to improve insurance identification. The Networks are implementing efficiencies in the patient intake process, and utilizing preregistration procedures developed for nationwide use. VHA is also pursuing data matches of Medicare and VA records to identify primary payer data.

Question. GAO acknowledged that VA has some initiatives underway to improve collections, but identified several additional things VA could do, such as contacting State insurance commissioners to obtain their help in removing exclusionary clauses in insurance policies that appear to preclude payment to VA. What are VA's plans to follow GAO's recommendations?

Answer. In addition to initiatives that we have previously mentioned are being undertaken, the following responds to other GAO recommendations with which we agree:

> "We believe it now is generally recognized that exclusionary clauses in private health insurance policies that attempt to discriminate against Government furnished healthcare are unenforceable as a matter of law. Therefore, in our view, removal of such clauses, mostly relics of outmoded practice, would have no appreciable effect on VA collections. Nevertheless, we plan on contacting state insurance commissioners, as GAO recommended, to request their assistance in a technical "clean up" of such policies (other than self-funded ERISA plans, which are not governed by state law) in this regard."

Question. Given that VA's expertise lies in health care, but not in debt collection, wouldn't it make sense to contract out the collections function?

Answer. It would appear so at a quick glance. However, this issue is complex as VA must adhere to rules and regulations the private sector doesn't have to deal with. Nevertheless, we are currently evaluating what functions could be effectively done by a contractor.

Question. Has any cost-benefit analysis been performed of contracting out this activity?

Answer. Recent outsourcing analysis performed by Coopers and Lybrand indicated that the VA's approach to cost recovery is inherently sound, but indicated that VA should consider some outsourcing. We are currently considering these recommendations.

MEDICARE SUBVENTION

Question. By 2002, VA's plans are for third-party collections to increase 75 percent over the fiscal year 1998 estimate, assuming enactment of authority to collect from Medicare for certain veterans. How dependent is your goal upon the Medicare "subvention" authority you are seeking?

Answer. VHA's goal is to reach 10 percent of total funding from alternative revenues by fiscal year 2002. This would include, Medical Care Cost Collections (principally third party), sharing (VA/DOD, TRICARE and enhanced sharing) and Medicare subvention. Medicare subvention is an important part of the strategy to meet the 10 percent alternative revenue goal. If legislation is not passed or is delayed, our goal still remains 10 percent by fiscal year 2002, but achieving it becomes significantly more difficult.

Question. Absent enactment of this proposal, what is VA's contingency plan for increasing funding?

Answer. We have confidence that Medicare subvention will be enacted, and that the test will show dual eligible veterans prefer to come to VA to use their Medicare benefits and that VA will provide excellent cost-effective healthcare at reduced expenditures to the Medicare Trust Fund. If not, other revenue alternatives (e.g., VA/DOD sharing, enhanced sharing, TRICARE and Medical Care Cost Collections) would need to be expanded further to fill the gap to meet the 10 percent target by fiscal year 2002.

Question. What is the status of Medicare subvention authority, and can you describe what has been so controversial about this proposal?

Answer. The Department of Veterans Affairs and the Department of Health and Human Services have prepared and co-signed a Memorandum of Understanding that will govern the VA Medicare project when it is authorized. Although enabling

legislation has not yet been introduced in Congress, the VA Under Secretary for Health and members of his staff are working with Congress, OMB, and HHS in support of legislation to authorize a Medicare pilot. The Memorandum of Understanding conforms to the requirements and guidelines contained in legislation which the Administration submitted last year, and resolves many difficult issues that could have been obstacles to a successful project. The Agreement contains an evaluation effort to ensure neither VA nor the Trust Fund are adversely affected.

Opposition to the VA Medicare project has stemmed primarily from concerns that it would increase costs to the trust fund. The controversy appears unfounded to VA, as VA agrees to reimbursement rates lower than what Medicare pays in the private sector. Therefore, the Trust Fund will benefit by reducing expenditures for dual eligible veterans.

Medicare beneficiaries who are veterans are entitled to equity of access in health care just as non-veteran Medicare beneficiaries. Many veterans who do not have service-connected disabilities and are not financially needy are now denied access to VA care because discretionary funding does not cover the cost of their care. The VA Medicare program would allow them to use their Medicare benefits to obtain care in VA. We believe veterans will benefit by having the freedom of choice.

Question. Given that VA seems to have excess inpatient capacity but little or no excess outpatient capacity, how will VA ensure that veterans using VA outpatient facilities are protected from reductions in services, longer waiting lines, or quality of care problems, assuming enactment of Medicare subvention authority?

Answer. VA is committed to providing high quality care for all patients. Waiting times, service capacity, and appropriateness of care are routinely monitored at all VA facilities and will be closely monitored at VA Medicare sites as part of the pilot evaluation and to ensure that high quality is maintained. Additionally, the Medicare funds collected from providing services to dual eligible veterans may be used to extend hours of operation, contract for services, or other enhancements to expand capacity.

PRIMARY CARE ACCESSIBILITY

Question. VA over the past several years has established scores of new community-based outpatient clinics to improve accessibility of primary care. GAO has expressed concerns that VA may be currently improving access for thousands of lower priority new users (non-service-connected) while thousands of higher priority current users must wait several years for reasonable geographic access to care. Networks' business plans and clinic proposals do not contain information needed to assess these concerns.

Answer. The Veterans' Eligibility Reform Act of 1996 has changed all the underlying ground rules concerning this issue. There are only two eligibilities for VHA care: those for whom VA "shall" provide care and those for whom VA "may" provide care. Low income non-service disabled as well as the service-disabled fall into the first category. Congress has required that VA use specified priorities only to enroll veterans into the VHA healthcare system should resources be insufficient to cover all veterans who want to receive VA healthcare services. An important concept in the new law, which GAO has not recognized, is that once veterans are enrolled, there is no distinction now between service-connected or non-service-connected veterans or the services they receive. All are treated equally. "Enrollees" are the appropriate population for planning services and the community-based outpatient clinics will improve access for all enrollees.

Question. Does VA have a goal for equalizing veterans' access among the 22 networks? If so, what is VA's target percent of veterans that should have reasonable geographic access?

Answer. VA does have a goal to equalize and improve veterans' access among the 22 networks, although no target percent exists. Under the Veterans Equitable Resource Allocation (VERA) methodology, VA is able to meet its goal of treating the greatest number of veterans having the highest priority for healthcare and allocate funds in an equitable, understandable and predictable manner. This allocation methodology corrects past geographic funding imbalances and helps make sure equitable access to care is available to all eligible veterans within the overall funding availability. Within their allocations, VISN's are shifting resources to more clinically appropriate care settings such as Community Based Outpatient Clinics (CBOC's) and improving access to care.

CONSOLIDATED MAIL OUTPATIENT PHARMACIES (CMOP'S)

Question. What level of success has VA's Consolidated Mail Outpatient Pharmacies (CMOP's) initiative had in reducing costs associated with mailed outpatient medication refills?

Answer. A conservative estimate of raw cost savings for the physical act of dispensing a mail prescription through CMOP's is $1.50 per prescription. Currently, at a rate of approximately 30 million annual prescriptions processed through CMOP's, estimated annual savings are $45 million. The CMOP program has provided VA medical centers the opportunity to redirect pharmacists to patient centered activities. Additional cost savings in drug costs and total health care costs have been and are being achieved through the more efficient and effective management of individual patient's pharmacotherapy by using clinical pharmacy specialists as facilitators with other health care providers and patients in the medication use process. The concept of reinventing the role of pharmacists (through the use of automated outpatient dispensing technology) into more direct patient care activities was an important consideration when the CMOP program was initiated in the early 1990's.

Question. Has VA's Consolidated Mail Outpatient Pharmacies initiative met with any reluctance or direct competition by VISN's or individual VA medical centers, which have adversely affected cost reductions?

Answer. There has been some reluctance by some VISN's or individual VA medical centers before those facilities were served by a CMOP. The VA CMOP program has had to prove the value of the program to VISN's and individual VA medical centers on a case by case basis and must continue to demonstrate that value on an ongoing basis. None of the reluctance has adversely affected cost reductions. In January 1998 the seventh CMOP became operational; therefore, capacity to process current system-wide mail prescription workload was finalized. Since the capacity now exists to process mail prescription workload across the system and outpatient prescription workload continues to increase due to the shift from inpatient to outpatient care and new patients entering the system, facilities, in general, have realized that CMOP's impact positively on customer service issues such as waiting time at the pharmacy window and mail processing time. Based on an ongoing analysis of private sector mail order pharmacy systems, these same facilities also realize that our average overhead cost of $2.10 per prescription for each prescription processed by CMOP is substantially less than private sector rates.

Question. How effective has the mailed refill program been at providing faster delivery to veterans?

Answer. For the variables that are under the control of the Veterans Health Administration, CMOP's have been very effective at reducing mail backlogs at individual VA health care facilities. Each CMOP monitors, tracks and evaluates mail delivery times routinely. If a mail delivery time problem occurs, there are software processes, which can be activated by the medical centers, to allow the CMOP to "pull" suspended mail prescriptions ahead of their scheduled release date. Generally, each CMOP takes approximately 36 hours to process work received from their participating medical centers. This is not true of each medical facility (some are greater and some are less on any given day). The key here is the consistency the CMOP program brings to the distribution portion of the outpatient prescription process.

Question. How have the successes in automated dispensing of inpatient medications?

Answer. The use of automated dispensing equipment first began for inpatient medication. VA tested one of the earliest automated computerized dispensing systems (Unit Dose) in 1987 to improve the accuracy and quality of inpatient medications use systems. VA has installed over 110 of these Unit Dose systems throughout the nation. In addition, the same company and others have adapted the inpatient technology for use in VA's outpatient clinics.

MEDICAL AND OPERATING SUPPLY INVENTORY

Question. VA's fiscal year 1997 expenditures for supplies (such as drugs, medical supplies, operating supplies, prosthetics, and provisions) totaled $2.6 billion. In 1995 the Office of Inspector General (OIG) issued a report (Review of Operating Supply Inventories at VA Medical Centers) which concluded that medical center operating supply inventories on hand were excessive and most inventory items were not recorded on supply control records. Have VA medical centers eliminated their excess operating supply inventories?

Answer. Many medical centers have exercised the option to record operating supply inventories under the Generic Inventory Package (GIP)—an automated system which tracks inventory and supplies from receipt to issue at point of use. This system enables medical centers to control and manage optimal inventories. Not all VA

medical centers have elected to use the GIP and it is unknown whether those VA medical centers have excess inventories.

Question. Are VA medical and operating supply inventories adequately controlled by inventory records or automated systems?

Answer. Medical and operating supply inventories are recorded and adequately controlled through the Generic Inventory Package (GIP). The GIP, which is not mandatory, also is used to record and control the warehoused supply inventories that are owned by the VA Supply Fund.

Medical Centers that have not elected to use GIP have supplies that have been issued to the using services which are not recorded as inventories. In those instances, local VA using service management is responsible for establishing and maintaining reasonable supply inventory levels and controls. Since these supplies are unrecorded, there are no inventory records or automated systems to monitor local supplies.

Question. In 1997, GAO reported that the Department of Defense prime vendor program for medical supplies along with other inventory reduction efforts resulted in savings of over $700 million, eliminated unnecessary layers of inventory, and emptied warehouses. Are there any VA efforts to apply a prime vendor approach to managing medical supply inventories?

Answer. VA was among the first Government agencies to award a medical/surgical prime vendor contract. Previous to that, VA had awarded successful pharmaceutical prime vendor contracts that dramatically reduced inventories and were instrumental in the Department's decision to close its depot system. For pharmaceuticals alone, inventories at the depots and at medical centers were reduced $30 million. Recently, prime vendor contracts were awarded for subsistence items. This has reduced inventories for this commodity by $6–$8 million. VA is now in the process of developing an improved medical/surgical contract that could significantly reduce the amount of inventory of medical supplies at medical centers. This contract, in conjunction with VA's active product standardization program, should markedly reduce inventories, improve product utilization, and reduce costs.

Question. VA initiated a prime vendor program for pharmaceuticals a few years ago. What lessons have been learned from the pharmaceutical prime vendor program that should be applied to a medical supply prime vendor program?

Answer. The VA Pharmaceutical Prime Vendor (PPV) Program has been highly successful since it was established in 1991. Several aspects of the PPV program can be assumed to apply to the Medical-Surgical Prime Vendor (MSPV) program as well. Significant factors that influenced the positive outcome of the PPV program are:

Inventory Costs

Storage costs were dramatically reduced because inventory levels dropped from a 30–120 day cycle to a just-in-time (JIT) cycle.

Stock on-hand was reduced to seven to 10 days.

Emergency delivery service for life-threatening situations ensured the pharmacist had the right product on time.

As the number of days of stock on-hand decreased, the inventory turnover rate increased, and the likelihood of receiving outdated stock was significantly diminished (product quality and freshness was preserved).

Storage Space

Over the past six years, the physical inventory space of VA medical centers has decreased substantially due to implementation of the VA Pharmaceutical and Prime Vendor programs.

Using a Pharmaceutical Prime Vendor system reduced warehouse and ward space, and this available space was converted to use for revenue-generating activities, such as leasing the property to neighboring VA facilities, other government agencies, or affiliated hospitals.

Today, approximately 75 percent of VA inventory space is used to store bulkier medical and surgical supplies, that are purchased in larger quantities than pharmaceuticals. Fully implementing a MSPV will decrease this stock on-hand and increase inventory turnover by 3 fold. The available warehouse space will be better utilized by the medical facilities for additional revenue-generating activities. Because warehouse and storage space (square footage and overhead costs) varies by facility, an actual saving is difficult to predict without performing a more detailed analysis.

Personnel and Administrative Time and Costs

PPV orders are placed electronically.

Using a pharmaceutical prime vendor enables the pharmacies to place one order for the medical facility and have the flexibility to choose from over 21,000 products available from over 300 manufacturers.

Since orders are placed daily and up to five times a week, the total number of orders placed is approximately 260 orders per year per medical facility.

Previously, a medical facility had to place multiple orders with many suppliers. This practice required the medical facility to receive, inspect, certify, and pay vendors individually. At that time the transaction costs were $75 per delivery order and $150 per purchase order.

Electronic ordering, inventory bar coding, confirmation, and electronic funds transfer (EFT) payment reduced the number of personnel and administrative time and costs used to support the VA's manual system procedures.

Once the PPV program was implemented, facilities had to evaluate the program's impact on its organization. FTE previously responsible for purchasing, warehousing, distribution, and fiscal functions, became available for reassignment to a different responsibility area/service, and most importantly, were available for reassignment to more critical direct patient care areas.

Payment Process

Next day payment provisions utilize a better payment method than International Merchant Purchase Authorization Card (IMPAC) card.

There are nominal transactions fees because the ghost credit account program is congruent with wholesale industry rather than retail industry.

Payment reduction from 15 days (initial Prompt Payment Act deviation) to approximately 24 hours positively reduces the cost of money.

The VA will continue negotiations with the prime vendors to decrease distribution fees.

It is anticipated that cost savings will exceed the initial projection of hundreds of thousand of dollars in annual savings.

Other

The PPV program is mandatory for all medical centers, outpatient pharmacies, and mail-out pharmacies—this ensures total ownership by VHA customers and competitive distribution fees.

Single award for each region (regions are contingent upon VA business strategies, both current and anticipated)—permits lower distribution fees and enables region to obtain consistent and uniform service.

Lockout mechanism on product groups or classes enables VA to meet its standardization goals and contract compliance objectives—economies of scale are successfully achieved.

Pharmacy Directors have been able to improve operations because the JIT method enables them to budget and forecast more accurately.

TELEPHONE PERSONAL IDENTIFICATION NUMBER (PIN)

Question. In 1997, the IG concluded that installing telephone Personal Identification Number (PIN) access systems at VAMC's could significantly reduce long distance costs. VHA agreed with this. What has been VHA's progress in installing PIN systems?

Answer. In keeping with his policy to give field facilities as many operational responsibilities as possible, implementation of personal identification number (PIN) access systems was decentralized. The Under Secretary for Health encouraged the Veterans Integrated Service Networks (VISN's) and the VA Medical Center (VAMC) Directors to install PIN systems at their facilities and/or integrate PIN systems into plans for their new telephone systems or upgrades to existing systems. In a memorandum, dated April 11, 1997, the Under Secretary for Health advised the Assistant Inspector General for Auditing (52) that he was hopeful that installation of the PIN system at all hospitals would be completed by September 30, 1998.

JUST-IN-TIME (JIT) INVENTORIES

Question. What level of success has VA had in reducing staffing and warehousing costs associated with the implementation of just-in-time inventories and the use of prime vendors?

Answer. Each VAMC activity has undergone reorganization or realignment. In many cases, some or all logistics functionalities were transferred to other programmatic areas such as Engineering, Environmental Management or Dietetic Service. While exact numbers are unknown, there has been a reduction in personnel devoted solely to logistics functions.

ADDICTIVE AND HIGH COST DRUG INVENTORIES

Question. What level of success has VA had in safeguarding inventories of addictive and high cost drugs?

Answer. Both GAO and VA OIG have reviewed the actions taken by VA to safeguard inventories of addictive and high-cost drugs and conclude that the actions taken addressed the vulnerability. Understanding that no system is foolproof, the vulnerability has been removed from the list of the Departments material weaknesses.

Question. What initiatives are being implemented to prevent theft and conversion of drug inventories?

Answer. Since 1992, VHA has implemented a number of actions designed to both protect supplies of controlled substances and high cost drugs and to detect any unexplained losses. In 1992 VHA established the requirement that all VA pharmacies limit access to controlled substances to a few authorized individuals. In addition, pharmacies are required to maintain a perpetual inventory of controlled substances in all areas of the pharmacies.

VHA also requires pharmacies to have electronic access locks in addition to manual lock requirements for all controlled substances areas. These electronic systems record the time, date and person entering the storage areas.

Over the last six years VHA has developed and released three versions of Controlled Substances software to track the ordering, distribution and dispensing of controlled substances on inpatient wards. The most recent version supports automated dispensing equipment and a wireless system to document inventory on the wards using bar codes. VHA also requires a perpetual inventory of controlled substances on all nursing wards.

In September 1997 VHA released version 3.0 of the Drug Accountability software. This software allows pharmacy managers to automatically track the receipt of pharmaceuticals from pharmaceutical prime vendors into the master inventory of the pharmacy and throughout the different dispensing areas of the pharmacy. This software also enables pharmacy officials to audit discrepancies in inventory about established tolerances.

Currently, VHA is reviewing proposals to automate medication administration at the inpatient ward level. This action, when implemented, will reduce medication errors, enhance the quality of patient care and provide for the complete tracking of pharmaceutical utilization from the wholesaler (prime vendor) to the medical facility to the patient.

COMMUNITY BASED OUTPATIENT CLINICS (CBOC'S)

Question. Does VA require networks to improve access first for higher priority veterans before lower priority veterans?

Answer. Improved access in the form of community based outpatient clinics is based on providing the best quality and array of healthcare services to eligible veterans using existing funds. One of the reasons for establishing new CBOC's is to provide more convenient access to healthcare for currently enrolled users, and to improve access opportunities for eligible veterans not currently served within existing resources. Category A Veterans continue to receive the highest priority for appointments, even at the CBOC locations.

Question. Are newly established clinics being systematically evaluated so that consistent and comparable data are available to monitor performance and make adjustments, if warranted? If so, what do the results show?

Answer. When proposals for new CBOC's are developed, the VISN and parent facility identify the criteria by which the clinic activities will be evaluated upon activation. The criteria address the business plan and the overall goals and objectives identified for the clinic. While some data collected may be unique to a particular clinic or Network, most of it is the same as that collected for all CBOC's.

PATIENTS' DEATHS

Question. There have been several reports over the past couple of years of inappropriate deaths of patients and serious misadventures; what assurances do we have that the requisite resources are being devoted to ensure that these "adverse events" are consistently and accurately reported and that corrections of deficiencies are effectively implemented?

Answer. Requisite resources are being devoted to ensure consistent and accurate reporting of adverse events and the correction of deficiencies.

—VHA Handbook 1051/1, "Patient Safety Improvement", published on January 13, 1998, establishes policy on the identification, reporting, review and analysis

of adverse events. Staff responsibility for the Patient Safety Improvement (PSI) program is delineated at the facility, Network and Headquarters levels. Oversight responsibility to ensure accurate reporting and follow-up is delineated at the Network as well as Headquarters levels.

—A Sentinel Event Registry to track and monitor adverse events reported to Headquarters within 48 hours is maintained by the Office of the Chief Network Office (CNO). In addition, computer software is being enhanced to allow facility entry of reports of Focused Reviews and Administrative Boards of Investigation, thus ensuring timely entry as well as access to appropriate Headquarters offices.

—A Patient Safety Oversight Committee with membership from the Chief Network Office, the Office of Performance and Quality (OPQ), the Office of the Medical Inspector (OMI) and the Office of Patient Care Services is meeting every two weeks to review each facility's analysis of adverse events, Boards of Investigation and Focused Reviews for appropriate actions and the identification of lessons learned.

—In addition, a Quality Management Integration Council (QMIC), chaired by the Under Secretary for Health, has been formed to provide oversight of quality and patient safety improvement activities. The Office of the Medical Inspector (OMI) monitors Focused Reviews and Boards of Investigation for the correction of deficiencies and conducts independent focused reviews, investigations, and site visits on quality of care issues. Recently, both the OMI and the Office of Performance and Quality have been authorized to hire additional staff to conduct these activities.

—A Quality Management Officer has been appointed at each of the 22 networks. One of their roles is to facilitate the reporting and analysis of adverse events at each medical center and to assure follow-up.

VALIDATION OF DATA

Question. The information and data systems on adverse events, such as Occurrence Screens (OS) and Patient Information Reports (PIR), have often been criticized for lack of accuracy in VHA; what processes are there for validating this data, and the information contained in reports derived from the data, concerning quality assurance issues, and how effective are they?

Answer. Reports of adverse events and assessments of those adverse events are reviewed at both the VISN and at Headquarters to assess the validity of the data and the appropriateness of the assessments and the actions being taken. At Headquarters this review is performed by both the Office of the Medical Inspector and the Patient Safety Improvement Oversight Committee. The latter body, in particular, frequently requests additional data from the facility if the original information seems questionable. While no data are available regarding this issue, we believe that these mechanisms are quite effective in improving the validity of patient safety information reported from field facilities.

Question. You have partnered with several other organizations and established a select group of expert advisors on quality assurance and you are seeking improved ways of identifying medical errors and their reporting by employees in VAMC's; how do you propose ensuring the full extent of these medical errors are reported and analyzed for their frequency and any trends that can be evaluated for making improvements throughout the VHA system?

Answer. Based on our consultations with safety experts, we have decided to improve the reporting and review of medical errors and other safety related incidents by adopting procedures based on the Aviation Safety Reporting System (ASRS), which has been successful in improving aviation safety over the last 23 years. The key feature of the ASRS is confidential, voluntary reporting with the reports being used to enrich knowledge of the factors that need to be addressed to improve safety. This new system will complement, not replace, our current internal management system that involves mandatory reporting and review of adverse events causing significant injury to patients. Currently, VHA is developing plans to pilot test and implement this new system. We believe the ASRS model will substantially increase the proportion of medical errors and adverse events that are reported by front-line staff. In addition, the ASRS based system should provide a quality check on our internal management system regarding the frequency with which adverse events that involve significant injury are reported.

BUSINESS PROCESS REENGINEERING (BPR)

Question. A draft report produced by the Veterans Benefits Administration—"Roadmap to Excellence" notes "there are widely divergent and often unproductive

approaches to BPR implementation being taken in the field stations." How will you improve implementation of business process reengineering and other initiatives aimed at improving the quality of work in VBA?

Answer. VBA is field testing the major process change initiatives that compose a significant part of the reengineered system in a series of test sites prior to full national deployment. The aims of these tests are threefold. First we wish to validate and measure the positive outcome and underlying assumptions of each of these process changes prior to full-scale national deployment. Second, we want to fully develop the actual field process from the theoretical concept so that field stations will be able to deploy successfully. Finally, we want to be able to successfully capture the costs in terms of workload management as well as the new opportunities for improvement produced by these changes in a systematic and maintainable way. These lessons will be shared throughout the organization. Likewise, we seek to capture the success stories and the problems encountered by regional offices and assure that the information is available to all stations so that they can leverage the knowledge gained by other facilities.

ACCOUNTABILITY MEASURES

Question. Last year in testimony the National Academy of Public Administration stated "VBA nationally operates in too permissive a manner with little accountability for the achievement of specific results across all 58 of its regions." Have appropriate accountability measures been implemented to ensure managers are held responsible for meeting quality and timeliness goals?

Answer. The Under Secretary for Benefits was confirmed by the Senate in November 1997. In just 5 months under his leadership, the Veterans Benefits Administration has taken dramatic steps to change its way of doing business. Among these steps are a number of strategies specifically related to improving quality and timeliness and holding managers accountable for meeting performance goals.

Accountability will be achieved primarily through: (1) strategic planning, which will be outcome based with measurable goals and based on a Balanced Scorecard, and (2) the restructuring of our 58 regional offices into consortiums which will require managers to meet team goals tied to strategic planning.

The balanced scorecard is a method of performance measurement that facilitates planning, setting targets, and alignment of strategic plans with our vision and goals. The VBA is presently developing systems and processes to implement the Balanced Scorecard.

The consortiums will provide the framework for the managers of the VBA's 58 regional offices, working in teams, to pursue performance goals linked to strategic plans and monitored and evaluated using the Balanced Scorecard. The performance evaluation system for managers will tie individual performance to team goals aligned with the strategic plan, thus assuring accountability for achieving specific results.

Question. The National Academy of Public Administration in its 1997 report called for consolidating VBA's 58 regional offices. Are your plans consistent with NAPA's recommendation? Will any regional offices be closed?

Answer. To some extent, our plan for creating consortiums is consistent with NAPA's recommendation. For example, member benefit offices within a consortium will identify economies in operation generally associated with consolidation. Certain activities will be consolidated as a means of reducing costs and redundancies. There will also be opportunities for sharing resources which, in turn, will help to increase service access points and the delivery of benefits.

The VBA prefers the option of consortiums to the alternative of closing regional offices. The consortiums enable VBA to maintain a presence in each State which helps in building partnerships with the Veterans Health Administration, community organizations, local and State governments, and veterans service organizations. In addition, a presence in each State is important in fulfilling our outreach mandate. Personal interaction with our customers at walk-in units, medical centers, military installations, and itinerant offices in every State is an integral component of this mandate and is consistent with our service philosophy.

IMPACT OF TOBACCO-RELATED CLAIMS

Question. If legislation is not enacted disallowing tobacco-related claims, and no additional funds are provided above the budget request, how will VA accommodate the increased caseload?

Answer. This answer assumes that the issue is increased workload, rather than increased caseload. VBA's discretionary budget request is based on the Administra-

tion's policy to not award compensation for tobacco-related illnesses acquired after military service and based solely on nicotine dependence that began in the military.

VA surveys suggest that if legislation is not enacted, over 500,000 veterans will apply for and ultimately receive compensation payments. Without additional resources to process these claims, VA will be unable to accommodate the increased workload without backlogs.

Question. Will VA give special priority to tobacco-related claims?

Answer. VA will not give special priority to tobacco-related claims. These cases, just like other claims, will be assigned work priority based upon the date they are received by VA. However, VBA has recently placed an emphasis on working older claims, which comprise a significant portion of our pending claims workload. Since many of the tobacco related claims are among our "older" claims, they will receive appropriate attention.

Question. What impact will the tobacco caseload have on timeliness and quality of compensation claims adjudication?

Answer. VA surveys suggest that over 500,000 veterans will apply for and ultimately receive compensation payments. Tobacco-related claims will overburden VA, causing backlogs. Claims processing timeliness and accuracy of claims adjudication will deteriorate. The increased workload will impact not only tobacco-related claimants, but others with more traditional claims.

Question. When will VA decide a supplemental and budget amendment are needed and when will the administration send up the request?

Answer. VBA's discretionary budget request is based on the Administration's policy to not award compensation for tobacco-related illnesses acquired after military service and based solely on nicotine dependence that began in the military. If legislation is not enacted, additional discretionary resources will ultimately be needed. We are hopeful that the Administration's proposal to not pay these benefits will be enacted sooner rather than later to avoid the need for a supplemental request in fiscal year 1998 and an amendment to the President's fiscal year 1999 Budget request.

CLAIMS PROCESSING

Question. A total of $38 million is requested for VBA initiatives to improve claims processing, such as computer-based training. Have these initiatives been prioritized, so that in the event that we cannot meet your full budget request we can fund the highest priority initiatives? Could you provide this prioritization to the Committee?

Answer. Of the $37.8 million requested by VBA, $22.6 million is for Compensation and Pension (C&P) initiatives. Claims processing improvements will be realized from each of these C&P initiatives. Although funding for all of the initiatives is needed in order to realize our vision, the C&P Service has prioritized them. C&P prioritized initiatives are:

Initiative	*Funds*
Computer Based Training	$6,373,000
Pre-Discharge Exam	5,000,000
Claims Processing System (CPS)	1,000,000
Conversion to Service Centers	5,983,000
Information Technology C&P BPR	2,400,000
Outreach/Surveys	512,000
Outbased Decision Makers	138,000
Personnel Information Exchange (PIE)	500,000
Partner Assisted Rating and Development System (PARDS)	250,000
Enhanced AMIE	462,000
Total	22,618,000

The remaining $15.173 million is identified by business line.

Business Line	*Funds*
Education	$4,493,000
Loan Guaranty	3,364,000
Vocational Rehabilitation and Counseling	1,000,000
Insurance	1,751,000
Crosscutting	4,565,000
Total	15,173,000

YEAR 2000 COMPLIANCE

Question. What is the status of VA's efforts to address the Year 2000 issue, and what steps remain to ensure systems will be compliant?

Answer. We are following the standardized, government-wide Year 2000 best practices phases established by the Office of Management and Budget (OMB) in conjunction with the Federal CIO Council Subcommittee on Year 2000. These Year 2000 phases are: (a) assessment (inventorying systems); (b) renovation (making the systems compliant); (c) validation (verifying the fixes); and (d) implementation (placing systems into production). Progress is measured as a percentage completed for each phase. These phases overlap and are not consecutive. For example, systems can be implemented before the renovation of all systems are completed. We have completed our assessment phase. Our current timetable and percentage completed for Year 2000 compliance is below:

	Assessment	Renovation	Validation	Implementation
Completion Date	1/1998	9/1998	1/1999	3/1999
Percent Complete	100	74	53	42

Overall, 74 percent of VA's systems have been renovated and made Year 2000 compliant. This represents a substantial increase from the 61 percent VA reported to OMB in November 1997.

Question. How much is included in the budget request to address the requirement that computer systems be "Year 2000 compliant?"

Answer. Our estimate for resolving Year 2000 problems in fiscal year 1999 is $67 million. This estimate includes such costs as personnel, hardware, software and contractor expenditures.

SMOKING CESSATION

Question. When will the administration submit its proposal for a smoking cessation program for veterans? What details can you provide on how this program will work?

Answer. We expect the authorization language for smoking cessation to be submitted to Congress by the end of April. The VA will develop a program guide once congressional authorization has been provided. Private sector contractors will provide the smoking cessation program. The guide will address the responsibilities of the contractors as well as the monitoring and reporting process of the program. The program will be offered to any honorably discharged veteran who claims to have started smoking while in the military.

VETSNET

Question. What is the status of the Department's effort to develop a corporate level database as part of the Veterans Service Network (VETSNET) program? A recent OIG Summary Report on Claims Processing highlighted VETSNET's key role in supporting the Veterans Benefits Administration corporate model and database and the Compensation & Pension (C&P) reengineering efforts. In addition, the report highlighted the fact that VETSNET is the sole means by which the Department is addressing two material weaknesses identified under the Federal Manager's Financial Integrity Act: (1) Aging, Antiquated, Obsolete, and Proprietary Hardware Systems, and (2) C&P Systems—Lack of Adaptability and Documentation.

Answer. The VBA Corporate Database has been established. It supports all VBA program areas and the following VETSNET application development efforts: VETSNET C&P, Loan Service & Claims, Automated Loan Production System (ALPS), Expanded Lender Information (ELI) System, and Education Chapter 1606. ALPS and ELI are the first applications scheduled for production (during 1998) that will use the VBA Corporate Database as a production database. When all VETSNET applications have been completed the VBA Corporate Database will be the central production database supporting all VBA business lines and will replace many of VBA's disparate databases currently supporting systems such as BDN. The VBA Corporate Model and Database provides VBA with a central, standardized view of its business that is fully documented and easily changed and maintained.

VETERANS BENEFITS ADMINISTRATION PERFORMANCE

Question. How is the Veterans Benefits Administration (VBA) assuring that it can effectively track, measure organizational performance, and assure effective use of staff resources?

Answer. VBA is refining a strategic management process that integrates comprehensive performance measures with the resources formulation and execution processes. VBA is using a balanced scorecard of performance measures in each business line. This scorecard of measures will be used to develop the request for resources and the scorecard will be used to track organizational performance. VBA has linked performance measures to the annual budget request, by developing integrating business line plans and the budget request, as required in the Government Performance and Results Act. The scorecard performance measures will be regularly monitored by the business lines and the leadership of VBA to assure the resources used by VBA deliver the desired performance.

FRANCHISE FUND/SUPPLY FUND

Question. What results can the Department identify under its pilot test that established franchising fund operations?

Answer. The Department successfully converted the six organizations selected for VA's Franchise Fund from appropriated to self-sufficient fee-for-service activities, established a customer based board of directors, and improved service delivery to its customers. The franchise effort has established a buyer seller relationship within the Agency that fosters a closer look at cost by the providers as well as a closer look at usage by the customers.

Through the operation of the Franchise Fund, VA customers are billed each month for services received, resulting in improved cost awareness for both the customer organization and the service provider. A monthly individual service activity and consolidated fund level income statement is produced by the Franchise Fund office, further improving management cost awareness. This process has resulted in unit cost reductions for Franchise Fund customers, more efficient use of common administrative resources, and better budgetary resource planning and usage by customers.

Examples: CPU rates have been decreased from $654/hour in 1997 to $524 in 1998, with additional reductions anticipated for both fiscal year 1999 and fiscal year 2000.

Disk Storage rates have been decreased from $246/gigabyte month to $153/gigabyte month.

Rates for the records storage facility have dropped from the anticipated $7.00 per square foot in fiscal year 1997, when the project began, to less than $5.00 in fiscal year 2000. Additional decreases are anticipated as the customer base increases.

Question. The Department retained $89 million for investment purposes in its Supply Fund, what is the status of that revolving fund?

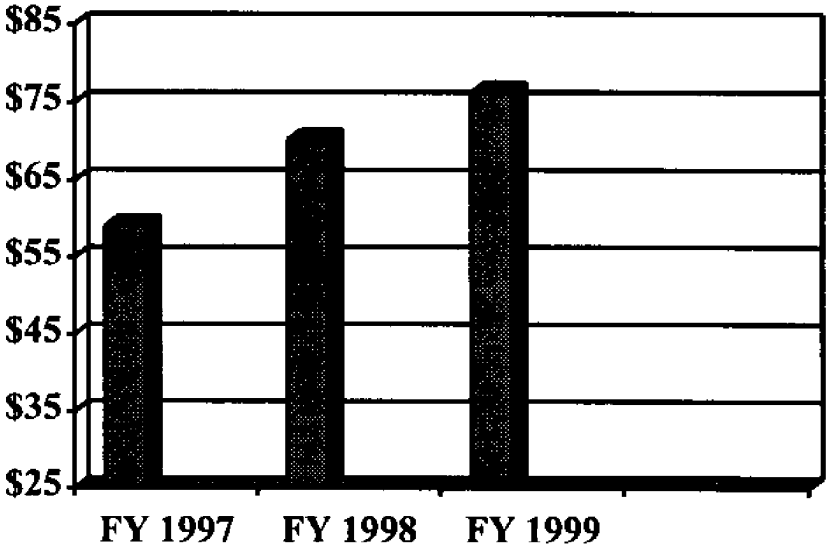
Answer. Rather than retain $89 million for investment purposes in its Supply Fund, the Department actually returned $89 million to the Treasury. These funds were savings resulting from the Supply Fund's closure of its three depots and the subsequent sale of Supply Fund inventory.

Question. How is income in the Supply Fund used to supplement VA appropriations?

Answer. Supply Fund income is not used to supplement VA appropriations. The Supply Fund, which does not receive appropriated operating funds, must recover all program operating costs through fees and charges recovered from internal VA customers, other Government agencies (OGA's), and other sources in exchange for the full range of products and services provided. When the business volume from non-VA sources exceed projections, the Supply Fund appropriately reduces the collection of fees from VA customers, but does not supplement appropriations.

Question. How much income has VA generated from franchising activities?

Answer. In our first year of operations, the VA franchise fund's fiscal year 1997 income exceeded $59 million. Focus during fiscal year 1997 has been on redefining the way these operations conduct their business, and the way VA customers view the services. VA does anticipate growth each of the next three years.



Question. How is this income used?

Answer. Fiscal year 1997 income was used to pay for the costs of all operating salary, depreciation and equipment expenses of the six service activities and the fund office. In addition, almost $2 million was applied to retained earnings for future capital investments, financial management, and other improvements not related to current operations, as is appropriate under fiscal year 1997 appropriation language.

QUALITY OF CARE

Question. The OIG report demonstrates a great variation in the staffs at VAMC's and the VISN's devoted to monitoring and correcting deficiencies in the quality of care received by veterans; what are your plans to rectify the situation and bring about some more consistent assignment of roles and responsibilities?

Answer. Quality Management Officers have been appointed in every VISN Director's office to oversee the QM activities in the VISN. VHA's efforts to ensure that our patients receive the highest quality of care have never wavered.

COMPUTER SOFTWARE PROCUREMENT

Question. The procurement of new and updated computer software is often a very costly and time consuming process for government agencies. I understand that the Defense Department has implemented a new means of procuring software that has made the process much easier and saved the defense Logistics Agency $50 million (over 50 percent) on one contract alone. I am told the new approach involves what is called a "per user fee" contract. In addition to saving money, the "per user fee" method has reportedly made it easier and less of a security risk to install and upgrade computer software. Can you tell me how VA makes software procurement decisions, and whether this new more efficient method is being considered?

Answer. VA acquires most of its software today through GSA Federal Supply Schedule channels. Software may be a separate commodity or is an integral part of a broader solution that also includes hardware and services. Before Federal Acquisition Streamlining Act (FASA) legislation relaxed regulations governing schedule purchases, VA acquired software or solutions through full-and-open competition. It is our understanding that the Department of Defense contract relates to the Defense Logistics Agency's (DLA) Electronic Software Distribution (ESD) contract. Under ESD, Agency end users download software product updates via the Internet from a Microsoft channel supplier, such as CyberSource in the case of the DLA contract. We recognize that Federal agencies are expected in the future to adopt ESD into their acquisition strategies to shift software administration costs to industry. We understand that some issues still need to be worked through. Late last year the Software Publishers Association issued industry ESD policies and procedures to

member software companies, distributors, and resellers. We will be looking into this option as the process improves.

Question. I understand that in an effort to capitalize on the Defense Logistics Agency's (DLA) successful efforts to lower software procurement costs, the Navy's Fleet Industrial Supply Center (FISC) in Philadelphia is attempting to expand this new software procurement model to other government agencies as well. In a time of tight budgets, innovative and cost-effective procurement strategies should be encouraged. Is VA considering joining FISC and DLS in this effort?

Answer. In advance of the ESD marketplace having matured sufficiently, VA has already taken certain steps to leverage its buying power to drive down software-related costs. VA's Procurement of Computer Hardware and Software (PCHS) contracts, competitively awarded in January 1997, have resulted in the lowest product pricing in the Federal market on certain software packages widely used in VA. The Department-wide PCHS contracts provide software maintenance options to permit VA facilities to better administer software media and documentation at lower costs. In the future, VA will introduce to their computer acquisition strategies other approaches including ESD and product service (also known as seat management).

QUESTIONS SUBMITTED BY SENATOR CRAIG

STATE EXTENDED CARE CONSTRUCTION GRANT PROGRAM

Question. As you know, the request for construction and maintenance of extended care facilities has been almost cut in half from a request of $80 million (fiscal year 1998) to a request of $37 million (fiscal year 1999). This substantial decrease brings to mind questions about the VA's commitment to meeting its construction requirements. Currently, there are $237 million in "Category One" projects, for which States have come up with 35 percent of the costs, and are waiting for the Federal Government to meet its obligation to provide the other 65 percent. Thirty seven million dollars will barely cover the costs of five projects. How do you plan to meet the VA commitment to fund 65 percent of the "Category One" projects with $37 million.

Answer. The President's fiscal year 1999 budget request of $37 million is consistent with the original fiscal year 1998 President's budget request of $41 million. Although this SEC grant program is an important element of VA's plans for meeting long-term healthcare needs of eligible veterans, the request level reflects the consideration priorities for funds both within the Department and throughout the Administration.

STATE CEMETERY GRANTS PROGRAM

Question. For a number of years, Idaho has tried to provide a national cemetery for our State's veterans. As you know, the VA has proposed to cover the entire cost of constructing veterans cemeteries around the country, if in return, the States agree to pay all required maintenance. Do you believe this is a fair burden for the States to incur for a veterans cemetery?

Answer. The State Cemetery Grants Program is a complement to VA's system of national cemeteries. Through a Federal/State partnership, the State Cemetery Grants Program allows veterans in less densely populated areas to also be served by a burial option. The development of new national cemeteries has targeted areas with a large concentration of veterans currently without access to either a national or State veterans cemetery. For example, the four new national cemeteries in the NCS strategic plan are being constructed near the large metropolitan areas of Chicago, IL; Dallas/Ft. Worth, TX; Cleveland, OH; and Albany, NY.

Currently, VA funds 50 percent of the construction of a State veterans cemetery and contributes a $150 plot or interment allowance for each eligible veteran interred to partially defray State cemetery operating expenses. VA has proposed legislation to expand the State Cemetery Grants Program by increasing the Federal share of funds to States from 50 percent to 100 percent of the costs of construction, plus 100 percent of the initial equipment costs, along with the continuation of the $150 plot or interment allowance. With this additional incentive, the Department hopes that new burial space could be provided to our Nation's veterans. State veterans cemeteries can also be used to ensure the continuation of service delivery. For example, the States of Tennessee and North Carolina have opened new State veteran cemeteries as the national cemeteries in the areas being served no longer had space for new casketed interments.

QUESTIONS SUBMITTED BY SENATOR MIKULSKI

EDUCATION

Question. I was very pleased to see that this year's budget request begins to address my concerns of providing lifetime learning opportunities to our veterans.

As I understand, one of the barriers to the utilization of educational benefits is the gap between the increasing cost of education and the level of the GI benefits. In this year's budget there is an increase to the Montgomery GI Bill education benefit that would raise the active duty benefit to more than $500 a month.

What analysis was performed to determine that this amount would provide sufficient funds to encourage/increase the use of the education benefits?

Answer. We compared the cost of education to increases in the full time monthly rate for Montgomery GI Bill—Active Duty benefits from 1985. Using the Digest of Education Statistics to track tuition and fees paid by students at public four year institutions during each academic year, we assumed a similar growth in the original full time rate of $300 monthly. The monthly rate would have been $648.25 during the 1995–96 school year had it kept pace with rising tuition costs. That represents more than a 45-percent increase over the current rate. The Administration determined that a 20-percent increase, while not fully restoring the lost purchasing power, provides adequate incentive.

Question. The increase in the Montgomery GI Bill education benefit is linked to the tobacco legislation which would restrict payment of service-connected disability compensation for tobacco related illnesses.

Answer. The Administration's budget identified many savings opportunities. As a complete package, in the balanced budget environment, this proposed increase is consistent, and it demonstrates the President's commitment to veterans' education.

Question. If legislation is not approved where does the Department propose that the increase for active duty benefits (GI Bill) would come from?

Answer. The department has not identified a funding source outside the Administration's budget package of spending and savings.

Question. If there is not an increase in the active duty benefit how will this impact the percentage increases proposed by the Department with respect to utilization?

Answer. No detailed analysis is available at this time to show the direct correlation between a rate increase and usage. However, we believe that rising costs in tuition, fees and living expenses without adequate funding sources serves to discourage usage.

I understand that a recent Business Process Re-engineering analysis on the manner in which education benefits and services are delivered was recently completed. You are considering several fundamental changes to enable VA education beneficiaries to receive financial assistance and information in a more effective and efficient way.

Question. Can you detail some of the changes you are considering and how they tie into lifetime learning opportunities?

Answer. The Education Business Process Reengineering (BPR) team addressed issues that inhibited veterans from beginning a program of education or training. For example, "program of education" is defined in title 38 in a way that prevents many high quality programs from being approved for VA benefits. Many are skills enhancement courses, or courses necessary to upgrade professional or technical skills. Modifications to the definition are being explored which expand educational and training opportunities while maintaining the integrity of all VA approved course offerings.

The team suggested VA also explore alternatives to the current restrictions on payment, such as accelerated payment. At present, payment is calculated based on a student's training time and months of entitlement. For instance, a veteran training full time will receive a monthly rate no higher than the equivalent to one month of entitlement. For a high cost program of short duration, that veteran would be forced to assume a debt for the difference between VA payments and the cost of the course, even though his or her total entitlement could cover all course costs. Of course, the costs and benefits of each alternative would need to be carefully examined before formal proposals could go forward.

Question. How will the changes increase the utilization of education benefits before they are lost?

Answer. Veterans who delay or decline educational or training opportunities because VA payments do not cover enough of the expenses may pursue those programs. They might also use more of their earned entitlement before their eligibility expires.

Question. When will you be making a decision on which changes you will be implementing?

Answer. There are potential cost implications for many of the recommendations. Our strategic planning process will assist us in developing and prioritizing proposals beginning with the 2000 budget cycle.

Question. What improved education opportunities does the Department foresee through the improved coordination efforts with DOD, Department of Education and education institutions?

Answer. We will enlist the aid of these partners to increase the awareness of opportunities available. With DOD we will provide service personnel with more information on educational and training opportunities before they leave military service. With the Department of Education we hope to heighten the awareness of other forms of financial assistance to better leverage VA benefits. Institutions will guide veterans through the educational process by offering pertinent programs and coordinating the various forms of financial assistance to better serve the needs of veterans and other eligible beneficiaries.

MEDICAL EDUCATION

Question. As a result of the recommendations of the Residency Realignment Review Committee sited in the budget justifications the Department will be making a shift of 1,000 specialty resident positions; 750 will be filled as primary care positions and 250 will be eliminated. In addition, VA is redirecting educational resources to primary care and reviewing its academic affiliations agreements to ensure they match the goals and objectives of VA.

With this new focus on primary care how will VA equip itself to handle unique patient care needs, say for example homeless veterans who must have their healthcare needs addressed in one single encounter?

Answer. VA's patient mix provides a rigorous test for both new systems of care and education of the nation's future physicians. By way of illustration, when an ill homeless veteran presents to a VAMC for healthcare, he/she must be provided in that single encounter with accessible care that accommodates all his/her principal healthcare needs. Referral appointments to several consulting specialists at some later date reflect practice that is inadequate and unrealistic. Resident trainees must have experience in systems of care that combine ready access and continuity with high levels of medical expertise if they are to be prepared to give effective care to patients and populations in a more systematic and quality-focused healthcare system in the future.

For example, to accommodate this need, VA initiated two new programs in October 1997—Access and Continuity in Education of Specialists (ACCESS) and Psychiatry Primary Care Education (PsyPCE). ACCESS provides a targeted experience within medical subspecialty residencies that focus on the development of primary care management skills. These residency-training experiences take advantage of patient care settings where physicians trained in medical subspecialties serve as the primary care physicians for patients with complex health problems. Similarly PsyPCE is an example of primary care that employs psychiatrists as the primary care physicians for patients with major mental health problems. In both programs, comprehensive primary healthcare will be provided by specialists. It is the intention of this program to provide as much expert care as possible in each encounter with a veteran patient.

Question. How can VA and its academic affiliates take advantage of the pressures building in the graduate medical education reform to go beyond the labels of "primary care" and "specialist" to align educational programs with the best systems of patient care?

Answer. Confining definitions strictly to "primary care" and "specialist" limit the opportunities for improvement that are available in the residency realignment process. An improved future health professions workforce will require models of care and education that embody the best aspects of both the primary care physician and the specialist.

One such strategy is the Primary Specialist Program. As mentioned above, VA and its affiliates are pursuing a strategy that defines criteria for specialties that provide the patient and population management skills of primary care together with specialty expertise for severely ill patients. These two new VA-sponsored programs, "Access and Continuity in the Education of Specialists" (ACCESS) and "Psychiatry Primary Care Education" (PsyPCE), place emphasis on the role of future specialists in the primary care of chronically seriously ill patients.

VA is engaging appropriate stakeholders and opinion leaders regarding this issue including the Accreditation Council for Graduate Medical Education, specialty orga-

nizations, the American Medical Association, the Association of American Medical Colleges and the Association of Academic Health Centers. Given the broad implications of graduate medical education reform for the future physician workforce, VHA must explore information and advice from all willing and valid sources as this process goes forward.

Question. Can you briefly describe the review process of your academic affiliations agreements?

Answer. The review of VA-medical school partnerships differs from other accreditation and standards based reviews. It is not so much a "report card" as a foundation for planning and the establishment of goals. The guidelines for review of affiliations encompassed six domains. These included the mission and vision of the partnership, physician faculty issues, medical care of veterans and the education and research partnership, business relationships, network-wide issues, and VA/university governance.

In most of the VISN's, the review of academic affiliations was coordinated by the leadership of the VA medical center and the medical school. The review was valuable on several fronts. First, the process helped to provide an accounting of the strengths and weaknesses of the partnership. Second, it provided an agenda for the future, which should serve to strengthen the affiliation over time. Third, and probably most important, the process strengthened new lines of communication and working relationships that should benefit VA's patients, students, and faculty staff as these affiliations move through this period of rapid change in medicine and medical education.

Question. How are you ensuring that innovative academic affiliations, which will create healthcare programs that best meet patient needs, will be established as a result of these reviews?

Answer. The Under Secretary for Health's Academic Partnership Instruction, titled "The VA-Medical School Partnership: Guidelines for Review of Affiliations" dated February 26, 1997, included guidelines and questions to assist in the development of educational programs that best meet patient care needs.

It is informative to consider some of the assumptions that underlie VA affiliations to ensure that education and patient care programs are focused on providing the best care to the veteran patient. First, health care workforce training, medical education, and research are most beneficial to patient care and most valuable to learners when they are aligned with the best models of patient care. Learning the art and practice of medicine in a setting that provides comprehensive care for the sickest and neediest of patients affords opportunities to learn medicine for practice of the highest quality. Second, education and research should be accountable to healthcare system needs. Accordingly, they should be managed with performance expectations and outcome measures. Third, VA's educational offerings should provide the numbers and types of healthcare professionals that reflect the needs of veterans as well as the broader community.

Finally, faculty, residents, and students should focus on providing healthcare value. In this vein, VA has explicitly defined value in healthcare to include technical competence, the wise and economic use of scarce resources, systematic provision of access to primary care, awareness of the importance of the functional status of the patient as a goal of health care, and focus on patient satisfaction.

One very daunting problem that we are facing with another population of veterans, the aging, is the shortage of health professionals with training in geriatrics. The shortage exists even among the number of those in academic settings who might train others about the significant differences between how to treat a younger and an older patient.

Question. What is the role in the re-engineering VA's medical education in training physicians and others in geriatrics and are there plans to increase this role?

Answer. VHA is in the second year of a 3-year implementation of the recommendations from the Residency Realignment Review Committee. These recommendations are germane to all resident physician training. In fiscal year 1997, the first 25 percent of these reductions were made and an additional 50 percent are being made this year. VA and its academic affiliates have expanded positions in general internal medicine and geriatrics as well as other primary care fields that have not traditionally trained in large numbers in VA. VA residency allocations for geriatric medicine increased from 104 positions in Academic Year (AY) 1995–1996 to 160.5 positions in AY 1998–1999. This represents a 54-percent increase. VA intends to continue the leadership it has held in geriatrics training over the last two decades.

These changes in health professions training build on a strong foundation of commitment to training of geriatric health professions in VA. VA's substantial commitment to geriatrics training and education is reflected in existing programs including

training in geriatrics at all VA facilities and specific programs targeted to the sixteen Geriatric Research, Education and Clinical Centers (GRECC's), the Geropsychology Post-Doctoral Fellowship, and the Pre-Doctoral Nurse Fellowship and the Rehabilitation Research Pre-Doctoral Fellowship programs.

Question. What is being done in the area of preventive care education for older patients.

Answer. Preventive care education is done through several geriatrics programs, including the GEM programs (Geriatric Evaluation and Management), the GRECC's (Geriatric Research Education and Clinical Centers) and also through the Geriatric Primary Care Clinics. Preventive care education is also an important component of the HBPC (Home Based Primary Care) Programs.

The following is a description of improvements in the quality of care indicators tracked by our Chronic Disease Care, Prevention and Palliative Care Indexes.

The Prevention Index consists of 9 quality outcome indicators that measure how well VA follows national primary prevention and early detection recommendations for diseases having major social consequences such as cancer, smoking and alcohol abuse. Compliance with these recommendations nearly doubled (from 34 percent to 67 percent) in fiscal year 1997. VA outperforms the private sector on all indicators where comparable data exist, ranging from being 5 percent to 69 percent better on individual quality indicators. In addition, VA has already surpassed the U.S. Public Health Service Healthy People 2000 goals for 5 of the indicators. Specific examples are immunizations for pneumoccal disease (61 percent) and influenza (61 percent), and the percentage of women receiving cervical cancer screening (90 percent).

The Chronic Disease Care Index consists of 14 quality outcome indicators that measure how well VA follows national guidelines for high volume diagnoses such as ischemic heart disease and diabetes. Percentages reflect the number of patients who actually receive a required medical intervention. The Chronic Disease Care Index in the aggregate rose 73 percent in fiscal year 1997. Again, where comparable data exist, VA consistently outperformed the private sector, ranging from being 21 percent to 124 percent better on individual quality indicators. Examples of VA versus private sector performance include the rate of aspirin therapy for patients with heart disease (92 percent vs. 76 percent) and the percentage of diabetics whose blood sugar control is monitored annually by a blood test (85 percent vs. 38 percent).

In the way of background, our Prevention and Chronic Disease Care Indexes are analogous to the Health Plan Employer Data and Information Set (HEDIS) instrument used in the private sector, although in viewing these VA indexes it is notable that we are evaluating our performance for several important indicators not routinely tracked in the private sector. For example, VA is setting the national benchmark for all healthcare systems by mandating and monitoring the use of standardized instruments to screen for alcohol abuse and to assess the functional status of substance abusers.

YEAR 2000

Question. In May of 1997 the GAO made recommendations to VBA with respect to strengthening its year 2000 program management. Since the date of the GAO report, VBA has made progress in resolving the year 2000 problem. The VA is fully aware of the serious implications that the year 2000 problems may have on not only the Department but the world at large. The Department has a self-imposed December 1998 deadline to ensure that all systems are made compliant.

All of the GAO recommendations have been adopted and are either implemented or in the process of being implemented.

Who is on the oversight Committee that provides advice to the year-2000 Project Manager and the Chief Information Officer?

Answer. This committee has a GS–15 representative from the Office of Management and a GS–15 representative from the Veterans Benefits Administration. Contractor support is provided by SRA International, Inc.

Question. When will all applications and third party products be in compliance?

Answer. VBA is following the standardized, government-wide year 2000 best practices phases established by the Office of Management and Budget (OMB), in conjunction with the Federal CIO Council Subcommittee on Year 2000, to resolve year 2000 problems. VBA has set December 1998 as the self-imposed deadline to ensure all systems are compliant, including commercial-off-the-shelf products. However, VA, like any other consumer—both public and private sector—is dependent on manufacturers' efforts to disclose year 2000 compliance information, and upon our trading partners to help resolve, implement, and test interface changes. We are working with the CIO Council Subcommittee on Year 2000 to expedite efforts in this area.

Question. What is being done to resolve interface issues with other agencies?

Answer. VBA completed its inventory of external data exchange interfaces in July 1997 and has identified 318 interfaces external to the VA. As of February 28, 1998, 65 percent, of the external interfaces are year 2000 compliant. VBA has made substantial progress in resolving interfaces issues and making direct contact with trading partners (both Federal and private sector) to discover their plans. VBA has contacted all external trading partners, and we have agreements for 90 percent of our external interfaces. VA's partner agencies are fully aware of the need to resolve interfaces issues and agencies are actively working with VA.

Question. Can you describe what will occur as a result of the new VBA Systems Architecture hardware environment hosting its first application?

Answer. In January 1998, the Claims Processing System (CPS) was successfully migrated to the new, centralized hardware environment, the Sequent NUMA–Q (Non-Unified Memory Allocation-Q) platform at the Austin Automation Center. CPS is the first three-tiered client server application to run in this environment. Initial reports indicate that migrating to the new VBA systems architecture environment improved response time and provided easier operation and maintainability of CPS.

Two Loan Guaranty applications will soon follow CPS: the Expanded Lender Information (ELI) system and the Automated Loan Production System (ALPS) are both scheduled for implementation in third quarter 1998.

A task order is currently underway to analyze the major functions related to systems development, identify missing or weak standards, policies, and procedures and deliver new or revised ones.

Question. When will this analysis be complete?

Answer. An initial task order has identified infrastructure functions required by VBA application development and has inventoried existing standards, policies, and procedures. This task order also identified infrastructure gaps and formulated a plan to address them in a follow-up phase. This phase, addressed in a second task order, is currently underway and is scheduled to be completed during third quarter 1998.

The purpose of the second phase is to develop and fully document the necessary policies, processes, procedures, and standards for institutionalizing VBA's infrastructure functions. These functions are the following: Project Management, Configuration Management, Software Quality Assurance, Development Management, Application Security Management, Architecture Management, and Development Environment Management.

HEPATITIS

Question. Secretary West, I am aware of recent reports out of the VA that the rate of hepatitis C in the VA health system has tripled at VA hospital in the VA health system. At the 1997 NIH Consensus Conference on hepatitis C, Dr. Leonard B. Seeff noted that a small study at one VA hospital in Washington, DC, revealed that 50 percent of all the incoming veterans were infected with hepatitis C.

This high rate at one institution begs the question, has there been any effort to screen incoming veterans at all VA hospitals or other facilities for hepatitis C? What does the Department plan to do to identify infected veterans throughout the VA health system and to provide them with information and treatment to arrest the progression of hepatitis C for their own recovery and to stop the spread of hepatitis C?

Answer. There is not evidence that the rate of hepatitis C virus (HCV) infection in the VA has tripled. In 1991, the VA mandated the aggregate tracking of the number of patients seen in VA facilities who were positive for HCV antibody, using the tests which first became available in 1990. In 1991 there were slightly over 6,600 patients who tested positive; comparable numbers for 1994 and 1996 were 18,800 and 21,400, respectively. In the last 3 years the rate of increase has diminished, which may indicate a plateau of antibody positivity. However, each entry does not indicate a single individual, and it is possible that some persons were tested more than a single time. Moreover, it is not certain whether the data indicate a true increase in prevalence, or alternatively, greater knowledge of the disease and the availability of antibody tests, with subsequent increased utilization of testing over time. Finally, since this was an observational study and not a serologic survey, we cannot determine what proportion of hepatitis C infected VA patients were captured.

Dr. Seeff's data from the Washington, DC, VAMC are misrepresented in the question; specifically, a 6-week survey of inpatients revealed an antibody prevalence of 20 percent, not 50 percent.

There is no formal program to screen all "incoming" veterans at all VA hospitals. Given the expected frequency of HCV infection this would be impractical and very

cost ineffective. However, the Office of Patient Care Services, in conjunction with VA experts in liver disease, has prepared standards for assessing risk of HCV and derivative recommendations for appropriate testing. This information, and an algorithm for HCV antibody testing, will be distributed by the Under Secretary for Health to all VA facilities.

The standards address counseling for reduction of high risk behavior. However, it is unclear if any current interventions, such as interferon with or without ribavirin, can arrest the progression of hepatitis C.

Question. Based on your experience in your former position, is the Army testing its personnel for hepatitis C to ensure our military is at optimum readiness?

Answer. The Army does not view occurrence of the hepatitis C virus as a readiness issue. The occurrence rate of the virus in current and prior service personnel is 0.6 percent, consistent with the U.S. population. Therefore, hepatitis C virus testing is not routinely performed at any entry or screening process for Army personnel, except when they are blood donors. As a blood donor, all units of blood are tested for various strains of hepatitis and HIV. The only other time Army personnel are tested for hepatitis is when they or a family member exhibit symptoms consistent with the virus.

Question. Do you believe that implementing a preventive strategy aimed at identifying and treating the hepatitis C infection at this time would be effective?

Answer. We believe it is important to identify HCV infection in those veteran patients at risk, and are implementing the strategy identified above. We do not believe that treatment of all antibody positive patients is indicated at this time. Current therapy is of relatively poor efficacy, and data are lacking that biochemical improvement in hepatitis, or reduction in HCV viral load (measured as viral RNA) will translate into clinical outcomes such as improved quality of life or prevention of disease progression. Clinical determinations to treat HCV infection are most appropriately individualized, based upon current literature and shared clinician-patient decisions; alternatively, therapy may be offered within the context of ongoing clinical trials.

AGING VETERANS

Question. VA seems to be in a unique position to help better prepare us to deal with the impact of an aging population. By virtue of now more than 20 years of experience in responding to the needs of the aging population of World War II veterans, VA has learned a great deal about how to care for an older population and about the field of geriatrics. We must ensure that VA continues to explore creative new approaches to long-term and geriatric care programs.

I am concerned, however, that too little of what VA knows and has learned, and indeed, what VA could learn through focused research in the coming years, is shared with those outside of VA who have an interest in aging issues.

We all know that most older persons do not want to go into nursing homes. I have often thought that it would be a benefit to veterans if VA were to encourage States to build State Veterans Homes on VA property so that the veterans could live in the State facility while enjoying easy access to VA care.

I am interested in facilities that provide a continuum of care for our aging veteran population such as is being proposed at Fort Howard in Baltimore. The Governor of Maryland will include a $100,000 planning grant in the State's fiscal year 1999's supplemental budget for Fort Howard Veterans Home. Dennis Smith, Director of the Maryland Health Care System, has indicated his support of such a facility.

What do you think of that idea?

Answer. Title 38 gives VA statutory authority to transfer real property to a State for use as the site of a State veterans' nursing home or domiciliary facility [§ 8122(a)(3)]. If the State of Maryland is willing to commit the necessary resources to participate in the construction of such a facility and then to operate the facility primarily for the care of veterans, this idea has merit. The Medical Center Director and Network Director concur with the idea.

Question. What can the VA do to support Maryland in its creative efforts at Fort Howard?

Answer. In addition to transferring land, providing up to 65 percent of the cost to construct a State veterans' home and paying per diem to the State of Maryland for eligible veterans residing in the facility (once the facility is operational and recognized), VA has authority to provide support through sharing agreements. A State veterans' home may also benefit from access to Federal Supply Schedules and VA contracts for acquiring services, equipment, supplies and pharmaceuticals for operations within the home. Enhanced-use lease ventures are another alternative that VA is exploring with interested States.

Question. What is VA doing to promote this type of approach and ensure a continuum of care to our aging veterans?

Answer. VA has provided land for State veterans' homes at Murfreesboro, TN; Roanoke, VA; Batavia, NY; St. Albans, NY; Phoenix, AZ; Boise, ID; Pittsburgh, PA; Fayetteville, NC; and Salt Lake City, UT. Land transfers are pending at the following sites: Montrose, NY; Big Springs, TX; and Temple, TX. Enhanced-use lease initiatives are also under development between VA and the States of North Carolina and Kansas.

Question. To what extent is VHA working with community entities to develop joint programs to take care of older patients?

Answer. VHA has used its specific sharing authority in Adult Day Health Care (ADHC) to develop joint programs in Chicago and Salem, VA. There are ongoing discussions with community ADHC's in a number of cities. VHA expects that its new National Strategy on Home and Community Based Care, will stimulate more joint ventures in home and community based services.

Question. What is the current mix across the VA system between institutional care in a VA nursing home or in some other institutional bed and non-institutional care, such as adult day care, or hospital based home care?

Answer. In fiscal year 1997, VA expended $1.9 billion in long-term care programs. Of that amount, $1.75 billion or 92 percent was spent in nursing home care. Home care services and day health services accounted for $146 million or 8 percent of all long-term care expenditures.

Question. Does the resource allocation model—Veterans Equitable Resource Allocation (VERA)—work to promote non-institutional care?

Answer. VERA is a method of allocating VA's Medical Care appropriation to the 22 networks. VERA is not designed to promote a specific type of care. It has the following objectives:

—Equitably distribute funds across networks.
—Fund highest priority veterans.
—Address veterans' special health care needs.
—Create a funding framework that is understandable and predictable.
—Align management and incentives with best practice.
—Improve accountability for research and education support.
—Comply with Public Law 104–204 requirements.

Within these objectives, Network Directors have discretion to provide the services that are deemed clinically appropriate for their patients. They are expected to fund facilities and programs according to the following principles:

—Funds distributions are readily understandable and result in predictable allocations.
—Support high quality healthcare delivery in the most appropriate setting.
—Support integrated patient-centered operations.
—Provide incentives to ensure continued delivery of appropriate special care.
—Support the goal of improving access to care.
—Provide adequate support for the VA's research and education missions.
—Be consistent with eligibility requirements and priorities.
—Be consistent with the network's strategic plans and initiatives.
—Promote managerial flexibility and innovation.
—Encourage increases in alternative revenue collections.

If these principles are applied, and if non-institutional care is the appropriate setting for a particular patient, then VERA would support this type of care.

Question. What is Headquarters communicating to the Veterans Integrated Systems Networks (VISN) about furnishing long-term care?

Answer. VHA is awaiting the final report of the Federal Advisory Committee on the Future of VA Long-Term Care. The Committee has completed its year-long review of VA's long-term care and is finalizing its report to the Under Secretary for Health. Following a broad study and review of the Committee report by VHA stakeholders, the agency will be able to outline a national policy for all long-term care services.

Question. Are the VISN's left to their own devices in this area or are there types and levels of long-term care which must be provided?

Answer. Under current law, long-term care services are lower priority than other forms of hospital and outpatient care. With the introduction of eligibility reform, home health care services will become part of the basic benefits package to the extent they are available in each local area.

Question. What plans does VA have to expand the amount of non-institutional long-term care offered to veterans?

Answer. VHA Directive 98–022, dated April 1, 1998, articulates national VHA policy and establishes a national VHA strategy that will provide the context for ex-

panding and developing home and community-based care within each Veterans Integrated Service Network (VISN). The VA can provide national leadership in this critical area of healthcare by developing an innovative, flexible approach to home and community-based care that is fully integrated into the healthcare system and uses resources efficiently and effectively to meet the needs of an aging and chronically ill population.

BENEFITS

Question. VBA has continued its commitment to improving the processing of compensation and pension (C&P) claims through its Business Processing Re-engineering (BPR) approach. VA, however, continues to lag in meeting its timeliness goal for the processing of C&P claims. At this time, VA has ambitious goals for the year 2000 with respect to time required to process claims.

Although an improved claims system can improve the efficiency of claims processing you still need the human commodity to make those systems work properly. I am very concerned about the level of staffing in VBA. Everything I have seen or know suggests that VBA must have more, not less, staff if there is to be any hope of cutting into the backlog of claims and giving veterans and other claimants timely service on benefit claims.

However, the Administration's budget calls for only very modest increases in the Compensation and Pension Service and an actual reduction in VBA FTE overall.

Do you believe that the proposed staffing level will be sufficient for VBA to fulfill its missions in the coming fiscal year? Stated another way, if there were not resource restrictions, what staffing level would you recommend for VBA?

Answer. From 1995 to the present, VBA reduced employment from 13,147 to 11,200, approximately 15 percent. There have been workload decreases that occurred at the same time, which made this reduction somewhat easier to accommodate. However, the C&P workload is expected to increase and the claims are expected to be more complicated. The 1999 budget requests additional resources to maintain overall employment at 1998 levels. The 1999 request technically shows a slight decrease (125), but this primarily reflects the transfer of Debt Management positions from VBA to the Franchise Fund.

While I am very satisfied and support the budget request for VBA there are strategic issues that warrant further evaluation. Two areas that I believe require further analysis and review are quality and the plan for Business Process Reengineering implementation (BPR). In order to improve quality throughout the system, I believe we need to re-institute quality reviews in each of our business lines. The front-end computer based training planned as part of BPR will enhance our claims processing and improve the quality of our claims, but does not come without a price. As personnel are engaged in learning these new tools it takes time from the processing of claims and increases the pending workload. Yet these initiatives must take place in order to realize long term gain across the system.

VBA's long term initiatives are built on the assumption there will be a stable workforce that continues to provide better service each year. This is why the maintenance of a stable employment level for 1999 is so important.

PERRY POINT RENT INCREASE

Question. Secretary West, I am concerned with the large rent increase that is proposed for the Perry Point facility in Maryland as a result of the QMIS rate evaluation. I have not received a written response to my request to put that rent increase on hold until an assessment was done of the fairness of the rates proposed by QMIS.

What commitment has the Department made to address this issue at Perry Point, ensuring that we don't place an undue burden on the men and women who serve our veterans?

Answer. VA has put the Perry Point rental increases on hold until such time as new fee appraisals are obtained. The new appraisals will be used to validate the appropriateness of proposed increases. No change in existing rental rates will occur until after these new appraisals are reviewed, evaluated and approved by VA Headquarters. It is anticipated that this process will be completed by May 1998.

Question. If the reassessment of rental values at Perry Point still calls for a drastic rate increase, what are you willing to do to phase in the rent increase?

Answer. Current quarters management guidelines issued by OMB allow increases that are 25 percent or more above the current rent, to be imposed incrementally over a period not to exceed 1 year.

Question. What can the VA do to ensure that the national policy has adequate flexibility to allow for unique situations with drastic increases—including on site as-

sessments when necessary to ensure that comparisons are being made of similar types of housing?

Answer. VA's national quarters policy stipulates that when the facility Director has knowledge, supported by specific examples, that the appraised basic rental rate is out of line with comparable private housing in the local community, or that allowable deductions have not been given proper consideration in the establishment of comparable rent, he or she may first request reconsideration from the appraiser or the regional survey coordinator. The existing rental rates charged for the period immediately preceding the appraisal or survey under consideration will continue to be charged pending the outcome of reconsideration by the appraiser, or regional survey coordinator, or until the next annual adjustment is required. If a reappraisal or resurvey requested by the facility Director is refused or results in no relief, an appeal may be sent to VA Headquarters for resolution. VA Headquarters has the flexibility to order new appraisals or make other rental adjustments as may be warranted to establish rates that are consistent with market values in the nearest established community.

MEDICAL CARE COST COLLECTIONS/MEDICARE SUBVENTION

Question. Indications are that the VA is running behind in its collections of third-party payments. Does the Department believe it will meet its collections projections for fiscal year 1998 and fiscal year 1999?

Answer. VA believes it will meet recovery targets.

Question. What is the VA doing to increase collections?

Answer. The chart below describes the proposed changes, updated February 1998, VA will make to increase recoveries. Implementation of these improvements will occur over the next several years.

Initiative	Description
Insurance Identification	Pre-registration: Involves contacting patients scheduled for outpatient visits to remind the patients of their appointment and to update patient information. $6.4 million was recovered from insurance from 10 medical centers in one year. Assuming average recoveries of $500,000 per each of 150 medical centers, $75 million in new revenues could be generated.
(Pre-registration, HCFA Match)	HCFA Match: Approximately 5 percent of the Medicare eligible population possess third party primary, full coverage, reimbursable insurance as a result of their full time employment or the employment of a spouse. MCCR is pursuing a match of Medicare and VA records to identify primary payer data. If the estimate is correct and VA mirrors the private sector, potential recoveries from this group may total between $60 to $97 million.
HCFA Medicare Remittance Notices	Since VA presently cannot receive reimbursement from Medicare for eligible veterans, MCCR has not been able to submit claims to Medicare Supplemental insurers similar to those of Medicare providers that have an accompanying remittance notice from a Medicare Fiscal Intermediary or Carrier. As a result, certain payers are withholding payment of Medicare Supplemental claims. HCFA and VA are negotiating an agreement to allow VA to utilize existing Medicare contracts to obtain the remittance notices to satisfy payer requirements. A one-time recovery of $42 million in outstanding unpaid claims and a recurring annual $8 million in additional revenue are expected as a result of this contract and change in processing.

Initiative	Description
Utilization Review	In fiscal year 1995, approximately $159 million in non-Medigap inpatient claims and $44 million in non-Medigap outpatient claims were denied by payers. Utilization review staff, familiar with third party criteria, such as admissions, lengths of stay, discharges, pre-certification, continued stay reviews, etc., could negotiate payments for many of the denied claims. UR staff have recovered as much as $400,000 per medical center in previously denied claims. If we assume a possible average success rate of between $100,000 and $200,000 for each of the 150 medical centers, recoveries from proper training and assignment could amount to between $15 and $30 million.
TRICARE, Sharing, etc., Revenue	As a consequence of Public Law 104–262, eligibility reform legislation, expanded sharing contracts, including support of TRICARE is expected to result in $25 million in new revenues annually.
SC/NSC Documentation and Billing	Approximately 3.3 percent of service connected inpatient care and 2.5 percent of service connected outpatient care for adjunct conditions are inappropriately being coded as treatment for adjudicated service connected care. Properly coding this care as adjunct and billing insurance carriers will result in an additional $11 million per year.
Salary and Benefit Offset	An IG audit determined that by referring delinquent patient copayment and means test debt for salary and benefits offset, an additional $3 million in revenues can be recovered. The MCCR program currently utilizes IRS offset for delinquent debt and is implementing referral of debt over 90 days old to the Debt Management Center in St. Paul.
Point of Service Contracts	In order to remain competitive, traditional HMO's recently began offering their enrollees the option of obtaining health care outside the HMO network. The enrollees agree to bear larger copayments and providers receive reimbursements that are less than customary and usual. Aggressive identification and recovery from these HMO plans will be pursued.
Network Incentives	Network retention of revenues recovered will result in better-managed local recovery efforts.
Reasonable Rates	Reimbursement rates are being structured to reflect reasonable charges responsive to market prices for the actual services provided; and a DRG rate schedule for inpatient care is being developed to be used with automated multiple rate schedule prices in Integrated Billing. Outpatient procedure rates are planned for late in fiscal year 1998.
Third Party Delinquent Claims	A nationwide contract to handle MCCR delinquent third party claims over 90 days for inpatient health care services provided veterans will help increase delinquent collections.

Question. Does the Department have a plan with specific benchmarks that it will use to increase collections and ensure that projections are met?

Answer. Yes. Networks have Strategic Plans, which include revenue projections. National recovery projections incorporate those goals.

Question. What will the VA plan to do if it is clear that it will not meet its collections projections?

Answer. VA is closely monitoring the collections. If at any time we do not believe that we will reach these goals, we will take immediate action to notify, and work with, the Administration and the Congress to ensure that adequate funding is provided for the healthcare of our nation's veterans.

Question. What plan does the VA have in place to ensure that the medical services provided to veterans does not suffer?

Answer. VA has developed an implementation plan for Public Law 105–33. This addresses the process that is to be followed. Below is the plan.

Implementation plan	Target date
Monitor monthly deposits in Medical Care Collection Fund (MCCF) to U.S. Treasury 36 5287.1.	Beginning November 1, 1997.
Provide estimates to Secretary of Veterans Affairs regarding deposits to MCCF and necessary action to be taken if shortfall of $25,000,000 below estimated recovery level of $604,000,000 is projected as contained in Public Law 105–33.	April 1998 July 1998.
If shortfall exists as noted in No. 2, prepare certification to the Secretary of the Treasury identifying the amount of the estimated shortfall.	August 1998.
Establish policy and mechanism to make available any additional deposits from the U.S. Treasury as a result of an estimated shortfall to each designated health care region an amount that bears the same ratio to the total amount recovered or collected by such region during that fiscal year.	September 1998.
Reconcile the estimates certified by the Secretary of Veterans Affairs for fiscal year 1998 as a shortfall to actual MCCF deposits and make adjustments assuring that not less than $579,000,000 ($604 million less $25 million) shall be available for veterans' medical care.	October 1998.

Question. What role does Medicare Subvention play in the VA's plan to increase non-appropriated income to 10 percent?

Answer. VHA's goal is to reach 10 percent of total funding from alternative revenues by fiscal year 2002. This would include, Medical Care Cost Collections (principally third party), sharing (VA/DOD, TRICARE and enhanced sharing) and Medicare subvention. Medicare subvention is an important part of the strategy to meet the 10 percent alternative revenue goal. If legislation is not passed or is delayed, our goal still remains 10 percent by fiscal year 2002, but achieving it becomes significantly more difficult.

Question. What contingency plans does the VA have to ensure adequate Medical Care funding is provided in the event that Medicare Subvention is not passed this year?

Answer. We have confidence that Medicare subvention will be enacted, and that the test will show dual eligible veterans prefer to come to VA to use their Medicare benefits and that VA will provide excellent cost-effective healthcare at reduced expenditures to the Medicare Trust Fund. If not, other revenue alternatives (e.g., VA/DOD sharing, enhanced sharing, TRICARE and Medical Care Cost Collections) would need to be expanded further to fill the gap to meet the 10 percent target by fiscal year 2002.

Question. What is the VA doing to help get Medicare Subvention passed?

Answer. The Department of Veterans Affairs and the Department of Health and Human Services have prepared and co-signed a Memorandum of Understanding that governs the VA Medicare project when it is authorized. Enabling legislation has been submitted although not yet introduced in Congress. The VA Under Secretary for Health and members of his staff are working with Congress, OMB, and HHS in support of legislation to authorize Medicare reimbursement to VA. While awaiting legislation, VA is moving ahead to position itself to become a Medicare provider.

TOBACCO ISSUES

Question. What is the VA's justification for seeking to go against the VA General Counsel decision and not provide benefits to veterans who develop smoking related illnesses after the normal presumptive period?

Answer. The Administration has consistently supported the integrity of the veterans' compensation program, which is intended to compensate our Nation's veterans and their survivors for deaths or disabilities acquired as a result of military service. There is no question that the program should compensate veterans for tobacco-related illnesses which became manifest during military service or an applicable presumptive period. However, awarding compensation for tobacco-related illness acquired after military service or after the presumptive period and based solely on claims of nicotine addiction beginning during service goes beyond the very important purposes of the veterans' disability program.

Congress has recognized the appropriateness of boundaries to the program by prohibiting payment of disability benefits for illnesses based solely on use of alcohol or drugs during military service. Like the consumption of alcohol, the use of tobacco products reflects a personal decision, not a requirement of military service. Most veterans, like most Americans, do not use tobacco products. It seems inappropriate to compensate those that choose to use tobacco with a program developed for those who became disabled in service to our nation. Our legislative proposal would disallow future claims of this type. Veterans currently receiving these benefits and veterans filing claims prior to enactment would not be affected by the change.

Question. Why aren't all of the savings from this proposal directed back into veterans programs?

Answer. The benefits that you refer to are not traditional VA benefits. Our legislation would merely reinstate VA policy in place prior to the new legal interpretation, thus retaining the program's intent. Awarding benefits for tobacco-related illnesses acquired after service based solely on tobacco-use during service, goes beyond the purpose of a program that we have consistently supported.

We have proposed several improvements for veterans:

—Fund a new smoking-cessation program for any veteran who began smoking in the military.

—Provide a 20-percent rate increase for the Montgomery GI Bill education program.

—Provide an annual increase of $100 million in VA's readjustment benefits account to reimburse Department of Labor programs to train, retrain, and assist older veterans to find employment.

Question. What does the VA propose would be provided for these veterans?

Answer. In lieu of providing monetary compensation, VA would provide medical care for any eligible veterans with smoking related illnesses. In addition, VA would provide smoking cessation through a contract program to any honorably discharged veterans who began smoking in the military. Eligible veterans, who are enrolled in VA's health care programs, already have access to smoking cessation if desired.

Question. Why isn't the Administration seeking any tobacco settlement money for the VA? Do you think that the VA should receive any tobacco settlement money?

Answer. As you know, VA programs were not a subject in the settlement negotiations. However, as the details of the tobacco settlement are established and if Federal programs are considered as possible recipients of settlement funds, VA has requested that it be included in these considerations.

DEPARTMENT OF DEFENSE—CIVIL

CEMETERIAL EXPENSES, ARMY

STATEMENT OF JOHN H. ZIRSCHKY, ACTING ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

ACCOMPANIED BY:

MAJ. GEN. ROBERT F. FOLEY, COMMANDER, MILITARY DISTRICT OF WASHINGTON

JOHN C. METZLER, JR., SUPERINTENDENT, ARLINGTON NATIONAL CEMETERY

RORY D. SMITH, BUDGET OFFICER, ARLINGTON NATIONAL CEMETERY

CLAUDIA TORNBLOM, ACTING DEPUTY ASSISTANT SECRETARY (MANAGEMENT AND BUDGET)

Mr. ZIRSCHKY. I thank you for the opportunity to testify. It is an honor and a pleasure to be representing Arlington Cemetery. I think it is our foremost national shrine to the men and women who have served in the Armed Forces.

Let me introduce a few people who are with me today. Major General Foley is the Commander of the Military District of Washington and Medal of Honor winner.

Senator BOND. Welcome, General Foley. Delighted to have you with us.

Mr. ZIRSCHKY. We have Jack Metzler, the Superintendent for Arlington Cemetery; Rory Smith, the Budget Officer for the cemetery; and Claudia Tornblom is here in place of Steve Dola who retired after more than 30 years with the Army at the first of the year.

EXPANSION

There are only two things I want to discuss today, and I will be very brief. I was interested in your comments about Jefferson Barracks. It is very difficult to expand cemeteries for veterans. We have been working for many years to try and expand Arlington Cemetery, and we are so close but we could use a little help to get across the finish line. If we do not take action, the cemetery is going to close early in the next century. If we can accomplish our new master plan that was recently approved by the National Capital Planning Commission, we can keep it open hopefully through the next century.

In our budget request, we have asked for one-half million dollars to begin preparation of a concept plan for how we would expand the cemetery onto adjacent areas. Part of the land is called section 29 which is near the Custis Mansion at the cemetery. We are also hopeful that we can acquire the Navy Annex and Henderson Hall, as well as parts of Fort Myer when they become no longer needed for military purposes.

We would invite you, Senator, and any of your colleagues to tour the cemetery. We would be happy to show you the areas, but also be happy to arrange for you to lay a wreath at the Tomb of the Unknown in honor of Missouri's veterans or all of the men and women who have served in the Armed Forces.

We probably will need legislation to make those transfers a reality. I understand both the House and the Senate are at least considering such legislation, if they have not already introduced it. We would appreciate your support for that.

BUDGET HIGHLIGHTS

The second issue I want to briefly talk about is our budget. As you noted, it is $11.6 million in new funds. We also, through scrubbing our books, found about $633,000 from prior years that has been recovered. Some of that money will be used for the new expansion plan, for a wash/fuel island, for expansion of our maintenance work done by contract, and $250,000 to restore the amphitheater.

We would also like to hire by contract an environmental manager to help us deal with some of the environmental issues at the cemetery.

PREPARED STATEMENT

Last, Mr. Chairman, we recently submitted a strategic plan as required by the Government Performance and Results Act. The goal of that plan is to help keep the cemetery open through the next century. Again, we will need your help to do that.

Thank you, Mr. Chairman.

[The statement follows:]*

PREPARED STATEMENT OF JOHN H. ZIRSCHKY

INTRODUCTION

I appreciate the opportunity to appear before the subcommittee in support of the fiscal year 1999 appropriation request for Cemeterial Expenses, Department of the Army. Arlington National Cemetery is the Nation's premier military cemetery and it is an honor to represent the cemetery.

With me today are Major General Robert F. Foley, the Commander of the Military District of Washington; Mr. John C. Metzler, Jr., Superintendent of Arlington National Cemetery; Mr. Rory D. Smith, Budget Officer from Arlington National Cemetery; and Ms. Claudia Tornblom, Acting Deputy Assistant Secretary (Management and Budget). The Assistant Secretary of the Army (Civil Works) is responsible for the operation and maintenance of Arlington and Soldiers' and Airmen's Home National Cemeteries.

Mr. Chairman, Members of the Subcommittee, unless action is taken to extend the life of the cemetery, space will not be available after 2025 to lay to rest today's heroes. We have recently completed a multi-year effort to develop a new Master Plan for the cemetery. We have also completed a Strategic Plan. Both support keeping the cemetery open as long as possible. Consistent with the President's fiscal year 1999 budget, Arlington National Cemetery will develop an expansion plan for using contiguous land sites that will be vacated by the Army, Navy and Marine Corps. The Army has agreed to transfer major portions of Ft. Myer to Arlington National Cemetery for development into grave sites when these lands are vacated. The first phase of this transfer will address Ft. Myer sites and the Navy Annex, part of the expansion plan for which funding is included in the fiscal year 1999 budget. We need your help to make this vision a reality.

The program I will present before you today is directed toward meeting today's requirements, while moving forward to address tomorrow's challenges.

FISCAL YEAR 1999 BUDGET OVERVIEW

The request for fiscal year 1999 is $11,666,000. In addition to that amount, $633,664 has been identified as remaining available from prior year recoveries, bringing the total fiscal year 1999 program to $12,299,664.

The sum for recovery of prior year obligations was identified as part of a comprehensive review of the Cemeterial Expenses, Army, appropriations going back to fiscal year 1986. During the review it was discovered that, after meeting requirements for operation, maintenance and improvement, these funds are available for reapportionment and use in fiscal year 1999. The availability of these funds was recently affirmed by the Army Audit Agency.

The appropriations requested, in combination with prior year recoveries, are sufficient to support the work force, to assure adequate maintenance of the buildings, to acquire necessary supplies and equipment, to provide maintenance standards expected at Arlington and Soldiers' and Airmen's Home National Cemeteries, and to permit selected improvements in cemetery infrastructure. The budget includes:

—$800,000 to construct a wash stand/fuel island;

—$500,000 to prepare a concept land utilization plan for land contiguous to Arlington National Cemetery under the jurisdiction of the Department of Defense and currently used by the Army, Navy and Marine Corps; and

—$253,000 to expand contracts for enhancing the appearance of the cemetery while implementing government-wide streamlining plans.

The fiscal year 1999 program is divided into three programs: Operation and Maintenance, Administration, and Construction. The principal items in each program are as follows:

The Operation and Maintenance Program, $9,401,000, will provide for the cost of daily operations necessary to support an average of 20 interments and inurnments daily and for maintenance of approximately 630 acres. This program supports 106 of the cemeteries' total 112 full-time equivalent Federal employee workyears. Contractual services are estimated to cost $3,429,000 and include these major items: $1,288,000 for grounds maintenance contract, $775,000 for the information guide service contract, $663,000 for a tree and shrub maintenance contract, and $110,000 for a custodial services contract. The tree and shrub maintenance contract work is increasing by $253,000 and expands an initiative begun in fiscal year 1996 to increase the amount of work performed and to enhance the appearance of the cemetery, while reducing the overall number of Government employees. Based on past experience, the custodial contract was estimated in the fiscal year 1998 budget to cost $210,000. Recent competition, however, has resulted in the award of the fiscal year 1998 custodial contract to a lower bidder, producing significant apparent savings in fiscal year 1998 and fiscal year 1999. We will continue to monitor the situation, retaining the differences in costs as contingencies until we have gained experience with the ability of the new contractor to satisfy the requirements of the contract during the busiest season at Arlington.

The Administration Program, $914,000, provides for essential management and administrative functions to include staff supervision of Arlington and Soldiers' and Airmen's Home National Cemeteries. Funds requested will provide for personnel compensation, benefits and the reimbursable administrative support costs of the cemeteries. The increase of $314,000 in support costs is necessary in order to expand our reimbursable administrative support services, including undertaking support services for procurement and property accountability.

The Construction Program, $1,985,000, provides funds as follows: $800,000 to construct a wash stand/fuel island, $500,000 to prepare a concept utilization plan for developing contiguous land, $250,000 to restore the Old Memorial Amphitheater, $100,000 to perform minor road repairs throughout the cemetery, and $335,000 to continue the graveliner program.

FUNERALS

In fiscal year 1997, there were 3,525 interments and 2,000 inurnments; 3,500 interments and 2,000 inurnments are estimated in fiscal year 1998; and 3,600 interments and 2,100 inurnments are estimated in fiscal year 1999.

CEREMONIES

Arlington National Cemetery is this Nation's principal shrine to honor the men and women who served in the Armed Forces. It is a visible reflection of America's appreciation for those who have made the ultimate sacrifice to maintain our freedom. In addition to the thousands of funerals, with military honors, held there each year, hundreds of other ceremonies are conducted to honor those who rest in the

cemetery. Thousands of visitors, both foreign and American, visit Arlington to participate in these events. During fiscal year 1997, about 2,700 ceremonies were conducted, and the President of the United States attended the ceremonies on Veterans Day and Memorial Day.

During fiscal year 1997, Arlington National Cemetery accommodated approximately four million visitors, making Arlington one of the most visited historic sites in the National Capital Region. This budget includes $40,000 to continue a study, begun in fiscal year 1998, to develop an estimating procedure and obtain reliable estimates of the numbers and kinds of visitors that Arlington National Cemetery serves. This increased orientation to our "customers" is consistent with the Government Performance and Results Act and the National Performance Review. Additionally, the study will lead us into the development of customer surveys to be used in implementation of the Strategic Plan for Arlington and Soldiers' and Airmen's Home National Cemeteries.

CONSTRUCTION PROJECTS

New and Expanded Projects in Fiscal Year 1999

Wash stand/fuel island.—This is a significant commitment to complete a capital improvement project, which will address environmental concerns. It was designed and included as an additive bid item in the solicitation for the Facility Maintenance Complex. The purpose of this project is to centralize fueling and vehicle washing operations for efficiency and to ensure compliance with environmental laws and regulations. Construction funding of $800,000 is included in the fiscal year 1999 budget.

Concept land utilization plan.—The 1997 proposed Master Plan for Arlington National Cemetery has identified and evaluated 14 parcels of land that potentially could be used to expand the cemetery, which would allow it to remain open for initial burials into the 22nd century. All of the parcels are either currently contiguous to the cemetery or would become contiguous after currently adjacent parcels are acquired. Attached is a map showing the locations of the 14 contiguous land sites considered in this plan.

Conceptual planning is required to determine when the contiguous lands might be available in the future. Toward that end, $500,000 is included in the fiscal year 1999 budget to prepare concept utilization plans to develop contiguous lands owned by the Federal Government as they become excess to the needs of the Army, Navy and Marine Corps in the future.

Old Memorial Amphitheater restoration.—Phase I of the Old Memorial Amphitheater project will be completed by June 1998. The work being undertaken in Phase I is primarily at the rostrum, the architectural focal point of the amphitheater and is funded at $175,000. Construction funding of $250,000 is included in the fiscal year 1999 budget for Phase II of the restoration. Phase II will complete the project, restoring the elliptical ambulatory which embraces the rostrum. The complete project will stabilize masonry and carpentry elements which have deflected, deteriorated, or are otherwise damaged, and will repair, replace, or add elements necessary to extend the serviceable life of the structure. This includes repointing brick columns; repairing and supporting deteriorated brick walls; repairing deteriorated column capitals; repainting all columns; replacing deteriorated wood trellis members; painting; cleaning, resetting and replacing stone pavers; and installing subsurface drainage.

Construction Projects Underway

Custis Walkway.—The Custis Walkway was initially constructed in 1879 along the route of General Robert E. Lee's departure from the Custis Mansion at the beginning of the Civil War. A significant portion of the 2,500-foot-long walkway is affected by heaving and cracks. The Custis Walkway project also will restore aesthetic features along the walkway consistent with historical records of previous conditions. The design for the walkway was developed, pursuant to the National Historic Preservation Act, 16 U.S.C. 47f, in coordination with the Virginia State Historic Preservation Officer and the Advisory Council on Historic Preservation, as well as with the Commission of Fine Arts. Construction funding of $1,175,000 was provided in fiscal year 1998 appropriations for this project. The contract is expected to be awarded this summer.

Columbarium roads.—The contract for Columbarium roads associated with the Phase III increment is expected to be awarded in April. The work, estimated to cost $810,000 (including design costs), is scheduled to be completed in November 1998.

Columbarium Phase III.—Construction of the first of two courts comprising Phase III of the Columbarium was completed in October 1997 at a cost of $3,374,632. Construction of the second court, which is ongoing, will be completed in July 1998. The

construction cost for the second court is estimated at $3,227,100. The combined capacity of the two Phase III courts is 11,286 niches, bringing the total capacity of the Columbarium Complex to 31,286 niches.

CLAIMS AND SETTLEMENTS

The fiscal year 1999 budget includes $98,000 to reimburse the Judgment Fund for the cost to the Department of Justice of a recently settled and paid claim related to a defective contract option in a grounds maintenance contract.

Following is a summary of the status of other claims associated with projects and contracts at Arlington National Cemetery.

We previously reported that a claim for differing site conditions, submitted by the construction contractor for the demolition of the old temporary Visitors Center and development of that land (Section 54 and 55) into gravesites, was formally denied. However, the contractor appealed this decision to the U.S. Court of Federal Claims on December 19, 1996. The Department of Justice is handling this case, which remains in the discovery phase and is at least 6 months from trial.

In addition to the settled claim for which reimbursement is budgeted, in another claim the grounds maintenance contractor alleged defective specifications in an interim contract. This claim was tried in July 1997, and a decision is anticipated within the next 6 to 9 months.

A claim was submitted for extended overhead and additional irrigation system work at the Kennedy gravesite. A tentative settlement with this contractor in the amount of $17,500 has been reached.

MASTER PLAN AND STRATEGIC PLAN

The Army recently completed the first update of the Arlington National Cemetery Master Plan since 1977. The Master Plan identifies projects and policies to respond to the challenges confronting Arlington National Cemetery. The proposed 1997 Master Plan for Arlington National Cemetery has been provided to the National Capital Planning Commission (NCPC) and Commission of Fine Arts for review. The NCPC considered the new Master Plan at a hearing on March 5, 1998. The NCPC's review is required for all master plans and designs for proposed construction projects in the National Capital Region.

The Master Plan challenges include: an aging infrastructure, declining availability of space for initial interment, and the need to preserve the dignity of the cemetery while accommodating substantial public visitation.

The future projects envisioned in the Master Plan will not begin to be implemented until we are into the next century. Projects and policies must be measured against funding to be made available in the budget and appropriations processes. Detailed planning and engineering studies necessary to establish the cost, feasibility, and responsiveness of individual capital projects to the Master Plan challenges will be programmed and proposed to Congress at the appropriate times, consistent with the overall program and budget of the President.

The challenges articulated in the Master Plan were incorporated, along with others, into the recently submitted Strategic Plan for fiscal year 1998 to fiscal year 2003. The Strategic Plan also covers the Soldiers' and Airmen's Home National Cemetery. Pursuant to the Government Performance and Results Act of 1993, the Strategic Plan lays out the following: a vision statement, a comprehensive mission statement, the general goals and objectives that will govern the use and development of the cemetery, the key strategies that will be used to achieve the goals and objectives, and the performance indicators that will be used to assess how well the goals and objectives have been achieved.

ARMY—INTERIOR LAND TRANSFERS

Public Law 104–201, the National Defense Authorization Act for Fiscal Year 1997, includes two land transfer provisions in Section 2821 relating to Arlington National Cemetery.

Section 29 Land Transfer.—The first part of Section 2821 of the 1997 Authorization Act instructs the Secretary of the Interior to transfer to the Secretary of the Army certain lands found in Section 29 of Arlington National Cemetery. The land found in Section 29 is currently divided into two zones: the 12-acre Arlington National Cemetery Interment Zone and 12.5-acre Robert E. Lee Memorial Preservation Zone. The transfer encompasses the Arlington National Cemetery Interment Zone and the portions of the Robert E. Lee Memorial Preservation Zone that do not have historical significance and are not needed for the maintenance of nearby lands and facilities.

The Superintendent of Arlington National Cemetery has visited other cemeteries to gain information on design options for facilities which would be fully compatible with the environmental and historical values of the surrounding areas.

The Secretary of the Interior is to base the determination of which portion of the Preservation Zone will be transferred primarily on a cultural resources study. This study is to consider whether archeological resources are likely to be located on the land, whether portions of the property are eligible for inclusion in the National Register of Historic Places, and whether property has forest cover that contributes to the setting of the Preservation Zone. The cost of the study was split evenly between the Department of Interior and Department of the Army. In addition, the Secretary of the Interior will provide the Committee on Armed Services of the Senate and the Committee on National Security of the House of Representatives with environmental and cultural resources information and analysis. Completion of this study was initially scheduled for July 1997, but has been delayed.

The transfer will be carried out under the Interagency Agreement between the Department of the Interior, National Park Service, and the Department of the Army, dated February 22, 1995. The transfer is to occur no sooner than 60 days after the Secretary of the Interior has submitted the information and analysis to the Committees.

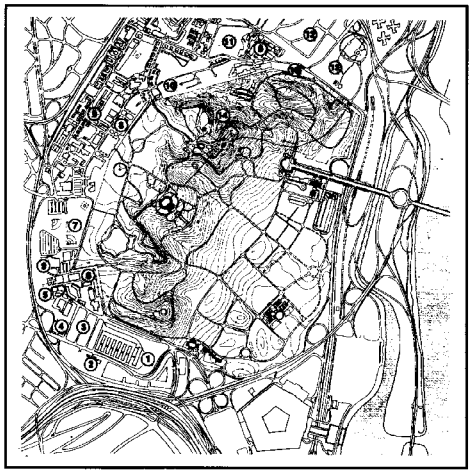
Visitors Center/Old Administration Building.—The second part of Section 2821 of the 1997 Authorization Act instructs the Secretary of the Interior to transfer to the Secretary of the Army 2.43 acres of land and the Visitors Center, which is constructed on the land. In return, the Secretary of the Army will transfer to the Secretary of the Interior 0.17 acres of land and the Old Administration Building, which is constructed on the site. Section 2821 provides the authority by which this agreed-upon exchange of lands may take place.

CONCLUSION

The funds included in the fiscal year 1999 budget, along with the prior year funds recovered and available for use in fiscal year 1999, are necessary to permit the Department of the Army to continue the high standards of maintenance and stewardship that Arlington National Cemetery deserves. I urge the Subcommittee to approve this program and to join us in meeting the challenges that face Arlington and Soldiers' and Airmen's Home National Cemeteries.

Mr. Chairman, this concludes my remarks. We will be pleased to respond to questions from the Subcommittee.

Cemetery Expansion -- Initial Site Suitability



SITES	NAME/OWNERSHIP
1	Navy Annex - DOD (F)
2	VDOT (S)
3	Private
4	Private
5	Henderson Hall - DOD (F)
6	Abbey Mausoleum (P)
7	Fort Myer - DOD (F)
8	Fort Myer - DOD (F)
9	Fort Myer - DOD (F)
10	Fort Myer - DOD (F)
11	Fort Myer - DOD (F)
12	Private
13	Iwo Jima/Carillon NPS (F)
14	ANC: Section 29 NPS (F)

Legend:
P = Private
S = State
F = Federal

TRANSFER OF RESPONSIBILITY

Senator BOND. Thank you, Mr. Secretary.

The veterans really are very much concerned about running out of land at Arlington National Cemetery, and we are very interested in seeing the results of the National Planning Commission. You have outlined some of the land available. We look forward to going through that with you because this is of great concern.

A broader question. Does it make sense to consider transferring the responsibility for the Arlington National Cemetery and the U.S. Soldiers' and Airmen's Home National Cemetery to the VA cemetery services? What kind of impact would that have on Arlington?

Mr. ZIRSCHKY. We have never done a formal analysis, sir. I do not believe the Department of the Army has an official position, so I will give you my personal position. I believe it should stay with the U.S. Army. I think we have done a very good job of managing it. There are over 2,000 ceremonies that involve the Army at that cemetery every year, mostly involving resources under the direction of Major General Foley. It is much easier to do that kind of coordination if the cemetery remains in the Army. I think we have done a very good job of managing it. We tried very hard to develop master plans to keep it open. I would hope that it would stay with the Department of the Army. That is just my personal opinion.

CONTRACTING OUT

Senator BOND. I notice that the fiscal year 1999 budget assumes a decrease of some 28 FTE's below the 1992 level of 140. How is reliance on private contractors to maintain the cemetery working out? How do you find that in terms of management? Is that working well?

Mr. ZIRSCHKY. I will let both myself and either General Foley or Mr. Metzler answer that. But generally I think it is working fairly well. I am worried about the future ability to keep the cemetery open with more cuts below where we are. We have reduced a few more FTE's, but it is going to get increasingly difficult to do that.

Our contract program has worked fairly well. For the most part, we have been able to avoid protests or bid problems, although we have a contract now that the bid, quite frankly, is much lower than what we are used to, so we are watching that one closely.

I think we are doing fine so far. I am very worried about future reductions in our FTE's because demand for use of the cemetery is growing, and we do need people to monitor the contractors.

I do not know if General Foley or Mr. Metzler——

General FOLEY. Mr. Chairman, I would only add to that that the Superintendent and I are constantly looking at ways in which we can reengineer the process of how we do business, and one thing that I have done just recently has been looking at, with the Superintendent, the possibility of leasing as oppose to purchase of various pieces of equipment, vehicles, and vans and so forth. I owe Dr. Zirschky a briefing here in the next several weeks on possible cost savings on an annual basis that we would achieve through that. So, we are constantly looking at those out-sourcing ways.

Senator BOND. I am not suggesting a further reduction. I was just asking whether the contracting out for the maintenance has been a good management tool, has it been efficient and effective and accomplish your objectives at a lesser cost.

Mr. ZIRSCHKY. Yes, sir; I would say so.

LIEUTENANT BLASSIE

Senator BOND. We have a question that is of particular interest to a family in St. Louis, whether Lieutenant Blassie is actually buried in the Tomb of the Unknown Soldier. That issue has been of grave concern to the family and all of the friends in that area.

What is being done about that, the issues raised there? I am sure you are familiar with it.

Mr. ZIRSCHKY. Yes, I am familiar with the issues. For the Army, that issue is being handled by Mr. Jay Spiegel, who is the Acting Assistant Secretary for Manpower and Reserve Affairs. The laboratories that do identification of remains are under Mr. Spiegel's purview. The Department of Defense is also involved, and I believe they put together a task force to try and resolve issues about how to handle that. This has never arisen before.

It also raises interesting points that with the DNA testing we do on soldiers, it is probably unlikely that we will ever have another unknown soldier.

Senator BOND. That is what my staff has suggested, and that I think will bring peace of mind to many families in the future. But still the Tomb of the Unknown is very, very important for many families who have not been able to find certainty about their loved ones.

ELIGIBILITY CRITERIA

There are a lot of questions that have been raised on eligibility requirements for Arlington National Cemetery, and the use of waivers has been discussed exhaustively over the last few months. I do not plan to get into that today, but to help us complete the record so we have a complete record in this committee on this issue, would you please provide for the record a summary of the requirements for eligibility for burial at Arlington National Cemetery, including a summary of waivers that have been approved to allow burials at Arlington. I assume it has probably already been compiled and you submitted it a number of times. We want to include it in our record.

[The information follows:]

BURIAL ELIGIBILITY AND WAIVERS

Individuals eligible for burial at Arlington include the following:

(a) Any active duty member of the Armed Forces (except those members serving on active duty for training only),

(b) Any retired member of the Armed Forces who has served on active duty (other than for training), is carried on an official retired list, and is entitled to receive retired pay stemming from service in the Armed Forces. If, at the time of death, a retired member is not entitled to receive retirement pay, he or she will not be eligible for burial,

(c) Any former member of the Armed Forces separated for physical disability prior to October 1, 1949, who has served on active duty (other than for training) and who would have been eligible for retirement under the provisions of 10 U.S.C. 1201 had that statute been in effect on the date of separation,

(d) Any former member of the Armed Forces whose last active duty (other than for training) military service terminated honorably and who has been awarded one of the following decorations: Medal of Honor, Distinguished Service Cross (Air Force Cross or Navy Cross), Distinguished Service Medal, Silver Star, or Purple Heart,

(e) Persons who have held any of the following positions, provided their last period of active duty (other than for training) as a member of the Armed Forces terminated honorably: an elective office of the U.S. Government; Chief Justice of the United

States or Associate Justice of the Supreme Court of the United States; an office listed in 5 U.S.C. 5312 or 5 U.S.C. 5313 (level I and II executives); and chief of a mission who was, at any time during his or her tenure, classified in class I under the provisions of 411 of the Act of August 13, 1946, 60 Stat. 1002, as amended (22 U.S.C. 866, 1964 ed.),

(f) Any former prisoner of war who, while a prisoner of war, served honorably in the active military, naval, or air service, whose last period of active military, naval, or air service terminated honorably, and who died on or after November 30, 1993,

(g) the spouse, widow or widower, minor child, and, at the discretion of the Secretary of the Army, unmarried adult child of any of the persons listed above.

(1) The term spouse refers to a widow or widower of an eligible member, including the widow or widower of a member of the Armed Forces who was lost or buried at sea or officially determined to be permanently absent in a status of missing or missing in action. A surviving spouse who has remarried and whose remarriage is void, terminated by death, or dissolved by annulment or divorce by a court regains eligibility for burial in Arlington.

(2) An unmarried adult child may be interred in the same grave in which the parent has been or will be interred, provided that child was incapable of self-support up to the time of death because of physical or mental condition,

(h) Widows or widowers of service members who are interred in Arlington as part of a group burial may be interred in the same cemetery but not in the same grave,

(i) The surviving spouse, minor child, and, at the discretion of the Secretary of the Army, unmarried adult child of any person already buried at Arlington,

(j) The parents of a minor child or unmarried adult child whose remains, based on the eligibility of a parent, are already buried at Arlington.

Requests for exceptions to eligibility criteria are received in the Superintendent's office and are reviewed. A recommendation is formulated and forwarded with supporting documentation through the Assistant Secretary of the Army (Manpower and Reserve Affairs) to the Secretary of the Army for a decision. Prior to the rendering of a decision, a staffing action is completed within the Army to ensure a thorough review of the request. This process takes approximately 24 to 48 hours.

Since 1967, approximately 196 waivers have been granted for burial at Arlington, and at least 144 documented requests have been denied. Of the granted waivers, about 63 percent involved burial of an individual in the same grave site as a family member already interred or expected to be interred. In the majority of the cases, the Secretary of the Army was the responsible official.

Mr. ZIRSCHKY. Yes, sir.

Senator BOND. We see from the Army Times representatives—I am not sure they are named. Yes; they are named in here—saying the efforts in the House to revise Arlington burial rules are too strict. What is the position of the administration on this legislation, and are there issues that need to be addressed in legislation relating to eligibility?

Mr. ZIRSCHKY. Sir, again that is under the Assistant Secretary for Manpower and Reserve Affairs.

The administration would like to keep the ability to have waivers for people of national significance.

My personal view on eligibility is that I would like to continue to have Members, for example, of Congress who have served the Nation honorably as veterans still remain eligible, other high administration officials who have served the Nation remain eligible for burial at Arlington. I think constitutional officers of the United States, such as Members of Congress, Supreme Court Justices, honor the men and women of the U.S. military by their presence there.

COMPUTER SYSTEMS

Senator BOND. Just for the record here, are you on track for converting your computer systems for the year 2000 problems?

Mr. ZIRSCHKY. I believe so, sir. After listening to some of the discussion on the first panel, I probably want to double check, but to

my knowledge, we do not have any systems at Arlington itself that will be affected by that. We do use systems of the Army's that might be affected by that, but the cemetery itself uses I believe commercial, off-the-shelf word processing and similar types of systems.

ADDITIONAL COMMITTEE QUESTION

Senator BOND. Well, that is good. We are asking that of all agencies just to make sure we are not surprised by a crisis next spring when somebody figures out that they are 9 months away from a crash. We would like to know now if there is a problem.

[The following question was not asked at the hearing, but was submitted to the Department for response subsequent to the hearing:]

QUESTION SUBMITTED BY SENATOR CRAIG

VETERAN AFFAIRS STATE CEMETERY GRANTS PROGRAM

Question. For a number of years, Idaho has tried to provide a national cemetery for our State's veterans. As you know, the VA has proposed to cover the entire cost of construction national cemeteries around the country, if in return, the States agree to pay all required maintenance. Do you believe this is a fair burden for the States to incur for a national cemetery?

Answer. The State Cemetery Grants Program, which is administered by the Department of Veterans Affairs (VA), was established to complement the VA National Cemetery System. We have referred your question to the National Cemetery System for a full response.

Senator BOND. Thank you very much, Mr. Zirschky, General, and gentlemen. Thank you very much.

The hearing is recessed.

[Whereupon, at 11:04 a.m., Thursday, March 19, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

THURSDAY, MAY 7, 1998

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:35 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Christopher S. Bond (chairman) presiding.

Present: Senators Bond, Burns, and Mikulski.

NATIONAL SCIENCE FOUNDATION

STATEMENTS OF:

NEAL LANE, PH.D., DIRECTOR
RICHARD ZARE, PH.D., CHAIRMAN, NATIONAL SCIENCE BOARD

OPENING STATEMENT OF CHRISTOPHER S. BOND

Senator BOND. The hearing will come to order.

The subcommittee meets today to review the budget request of the Office of Science and Technology Policy [OSTP], and the National Science Foundation [NSF]. I welcome Dr. Neal Lane, Director of the National Science Foundation, and I am sure soon to be the President's Science Advisor and Director of the Office of Science and Technology Policy. We also welcome Dr. Richard Zare, the Chairman of the National Science Board, and Dr. Kerri-Ann Jones, currently the acting Director of OSTP.

I congratulate you, Dr. Lane, on your promotion to the position of the President's Science Advisor. Or are you being kicked upstairs? [Laughter.]

I do not know which. In any event, you have done a great job as Director of NSF. It has been a pleasure to work with you, and I look forward to working with you as the Director of OSTP.

We also are happy to have you here today, and feel particularly fortunate in having the benefit of your expertise and perspective on the funding needs and priorities of NSF, as well as your views on the role of OSTP in formulating the science and research development priorities of the administration.

OSTP's budget request for fiscal year 1999 totals $5.026 million, a $94,000 increase over fiscal years 1997 and 1998 enacted levels. NSF's budget request for fiscal year 1999 is $3.773 billion, a $344

million increase, or a 10-percent increase over the fiscal year 1998 enacted level.

I am very pleased to convene the hearing this morning on the OSTP and NSF. Under both Senator Mikulski's leadership and mine, this subcommittee has always been committed to providing the strongest possible support for a Federal commitment and role in our Nation's scientific endeavors. I believe we all agree, at least on this subcommittee, that research and development is a good and necessary investment for the economic and intellectual growth and well-being of our Nation.

We also know that you, Dr. Lane, Dr. Zare and Dr. Jones, agree with us, as well.

First, I applaud the continuing efforts of OSTP to provide policy leadership on the important issues facing the scientific community. I also applaud NSF for pushing the boundaries of what we know about ourselves, our environment, our world, and the universe, as well as being on the cutting edge of science, research and development.

The examples of NSF's leadership in R&D are almost endless, and I will note only a few: NSF's investment in nanotechnology and thin films are expected to generate a one thousand-fold reduction in size for semiconductor devices, which will make computers, telecommunications and other advanced technologies even more powerful, more portable, more affordable, and more useful.

In terms of life in extreme environments, the unique properties of a microbe found in the thermal pools and geysers at Yellowstone Park some 30 years ago has led to the development of the polymerized chain reaction, or PCR, that has led to DNA fingerprinting, enzymes for nonpolluting detergents, and a variety of other state-of-the-art applications. And I am very proud that the new plant genome initiative is already bearing fruit. This is a very important new thrust of research at NSF which I believe could lead to a revolution in how we develop new and better sources of food and food-related products.

Finally, I speak for all of us in acknowledging and applauding your efforts to communicate the wonder and awe that scientific endeavors can inspire in the American public. It is so important to encourage scientists to talk about their work to public groups and to plant the seed, through education grants, that will help spark the interest and fascination in science that will lead to a new generation of scientists, researchers, and teachers.

As the father of a 17-year-old who is struggling with A.P. biology, I am always glad that there is something out there that can motivate and inspire him, and let him know that all that hard work and the things that he talks about that I do not understand may lead to something very productive in the future. And it really makes a big difference in encouraging young people to pursue a scientific education.

As chair of this subcommittee, I have a particular interest in providing the necessary Federal investment in biotechnology, particularly as it applies to agriculture. I believe the plant genome initiative, and related research, will help ensure the long-term sustainability and competitiveness of U.S. agriculture. And I know we can

count on both OSTP and NSF to continue to spearhead and support the efforts of this important initiative.

Nevertheless, that is all the good news. The tough news is that this is another difficult year for funding decisions for the subcommittee. The President has submitted a budget that raises expectations by not structuring spending decisions according to fiscal requirements and program needs. In particular, the President's budget proposes a Research Fund for America, which is intended to reflect the President's commitment to nondefense research programs.

The Research Fund for America is essentially a title for existing research and development programs which proposes a total of $31 billion for all programs in the fund in fiscal year 1999, an increase of 8 percent over the fiscal year 1998 level; and a total of $38 billion for all programs in the fund in fiscal year 2003, a 32-percent increase from the 1998 level. This includes a 10-percent increase for NSF in fiscal year 1999, and a 24-percent increase from the 1998 level for the NSF in fiscal year 2003.

Unfortunately, these funding proposals depend on budget contrivances and unrecognized revenue, such as the tobacco settlement. And I fear they raise expectations which may set the stage for disappointment.

In particular, the subcommittee has significant funding needs that we must address, ranging from medical care for veterans, to climbing costs associated with section 8 housing for low-income Americans, to relief for victims of disaster. While it is premature to discuss absolute levels of funding that may be available to NSF because we do not know what allocation our subcommittee will receive, we know, if past experience is a guide, that it will be very tight.

Consequently, it is important for us to understand NSF's funding priorities and how these priorities are reflected in your agency's activities. We are particularly interested in the implementation of the Results Act, which requires agencies, through the fiscal year 1999 budget, to think strategically about their goals and to measure their performance against the goals they have set.

Although we appreciate the difficulty of setting goals in basic scientific research, where the goal is to explore the unknown, we have to hold you and ourselves responsible for how we spend Federal dollars. I want to raise one additional concern about how NSF funds are distributed to universities and colleges, as well as to various areas of the country.

I understand that a recent NSF survey of Federal R&D expenditures based on data collected through fiscal year 1996 indicated that the top 50 recipients of university-based research receive about 60 percent of all available research dollars—some $8.3 billion out of $13.8 billion.

In addition, a number of these top 50 schools received an additional $4.3 billion because they manage large federally funded research and development centers for various Federal agencies. For example, MIT receives $271 million annually in academic R&D expenditures, plus an additional $334 million for its DOD-supported Lincoln Lab. Likewise, Stanford receives $282 million in academic

R&D dollars, plus an additional $120 million through its DOE-supported Stanford Linear Accelerator Facility.

Consequently, we seem to have a chicken and the egg program. I am sure the argument is going to be made that we have to do science where we put the money, where we already conduct the scientific research. But if we have not put money in other areas and schools, then there is no basis on which to invest more money. While the Experimental Program to Stimulate Competitive Research, or EPSCoR, is an attempt to stimulate R&D competitiveness in universities in States which receive relatively little Federal R&D funds, the program receives very little funding within the overall NSF budget request, totalling only $53 million for fiscal year 1999. As such, it does seem that the rich get richer.

Nevertheless, I believe it is worth considering ways to invest in research and development throughout the country, so that all areas and schools have an opportunity to prosper.

I will have additional questions and comments, but let me now call on my distinguished ranking member, Senator Mikulski, for her opening statement.

Senator Mikulski.

STATEMENT OF BARBARA A. MIKULSKI

Senator MIKULSKI. Thank you very much, Mr. Chairman.

And I am going to condense my opening statement, and ask unanimous consent that its entirety be placed in the record, so that we could move ahead to our opening statements before we need to vote.

Senator BOND. Without objection.

Senator MIKULSKI. I really do want to welcome Dr. Neal Lane, the Director of the National Science Foundation, as well as Dr. Kerri-Ann Jones, the acting Director of OSTP, and Dr. Richard Zare, the Chair of the National Science Board.

Dr. Lane, we wish you well. We know that this is an appropriations in transition. But we are going to be seeing you. And I know we really hope that the confirmation of both, for you to be head of OSTP and the confirmation of our very distinguished Marylander, Dr. Rita Colwell, is expeditiously approved in Education and Labor. And you can count on me to really work with Senator Jeffords to move those nominations forward.

Dr. LANE. Thank you.

Senator MIKULSKI. I know we are in a transition in terms of leadership. But if we have clear goals, a specific budget and a direction, this should continue along the lines that we have essentially done the ground work.

As you know, I have been a long advocate for Federal investment in research and development. And for the last several years, reports have been issued by various experts on our competitiveness to outline the critical technologies that will be needed for the 21st century.

We know, Dr. Lane, when we started out, I advocated that rather controversial proposal for the National Science Foundation to engage in—strategic research. I think everybody got very clear that I was very much for basic science, that my model was really, in some ways, the NIH model, but different because of the way the

NSF is structured. And I want to thank you for the way that NSF now organizes itself, along something called highlights and priorities, knowledge and distribution intelligence, life and environmental science, as well as education for the future.

I think it is in those kinds of areas that we can move ahead. Because I am concerned that while we win the Nobel Prizes, we lose the markets. And at the same time, we have to get our young people ready for the new world economy, which will be information driven and knowledge driven.

So, therefore, we want to ensure that the National Science Foundation directs energy and resources into science that the United States of America is the premier science and technology nation, generates high-wage jobs for its own people, but has that work force readiness from K through Ph.D. I mean, that is really the way we need to think about it.

I want to hear the progress that has been made in developing the national goals to stimulate new ideas and new opportunities in research and development for our economic growth and the advancement of our intellectual infrastructure. Fortunately, this year NSF has submitted a budget that highlights several research themes. And I believe that this is a good start. I would be interested in hearing the progress that has been made in those areas.

Also, last year the former Director of OSTP, Dr. Gibbons, referred to a gap between university research and the private sector as the valley of death. So we want to make sure there is no valley of death between the creation of new ideas and the development of new products.

I am pleased the President's budget has requested a 10-percent increase for the National Science Foundation. And I believe the administration is on the right track in maintaining leadership in science, engineering, and math, promoting long-term economic growth that creates, sustains a healthy and educated citizenry, harnesses information technology, improves environmental quality, enhances our national security, and, of course, expands our continued wonderful breakthroughs in life science.

Whether it is the National Science Foundation or NIH or its wonderful extramural programs, I think we are all heartened, over the last 72 hours, to hear of the breakthrough that has come out of Maryland on the new breakthroughs on stopping the growth of cancerous tumors by limiting or terminating the blood supply that would feed the growth.

Well, you and I know that that came out of basic science. But then the basic science at a university-based system then, also working with the private sector biotech company, has led to something that would save lives. We know it is very preliminary. But even there it shows the triad I think that we are talking about: Strong support in Federal laboratories; extramural programs, whether they be the great academic centers like Hopkins or EPSCoR; and at the same time then working with the private sector in a way that is collaborative and ethically appropriate and so on.

This is, I think, what America wants. But it took a lot of work in basic science. It took a lot of people, from the lab tech to the doctoral-level people who do this. So we can elaborate on this in our

hearing. I see by the clock it is 10 of 10:00. So we look forward to hearing what you want your leadership to be through this appropriations and also the coordination that must occur at OSTP, and, of course, our Board.

Thank you.

Senator BOND. Thank you very much, Senator Mikulski. I started to say Dr. Mikulski.

Senator MIKULSKI. Well, I have got a bunch of them, even one from Hopkins. I have the Dean's Medal and the School of Public Health, and that gets me one little ketchup container at Jimmy's diner. [Laughter.]

Senator BOND. Well, doesn't it get you a title? Shouldn't we call you "Your Worthiness" or something like that?

Senator MIKULSKI. No; we do not want to get into this. I want to be called Chairman, but I do not think that is what we want to bring up. [Laughter.]

Senator BOND. No; we will work on that elsewhere. [Laughter.]

Let me turn to Dr. Lane and Dr. Zare. Welcome, gentlemen.

Dr. LANE. Thank you very much, Mr. Chairman, Senator Mikulski. And I appreciate those kind words.

I would appreciate, before my very brief opening statement, if Dr. Zare could make his comments. Thank you.

Senator BOND. Yes; thank you.

STATEMENT OF RICHARD ZARE

Dr. ZARE. Thank you. Chairman Bond, Senator Mikulski, and members of the subcommittee, I appreciate the opportunity to testify before you today. I am Dr. Richard Zare, Chairman of the National Science Board, and Marguerite Blake Wilbur Professor of Natural Science at Stanford University.

NATIONAL SCIENCE BOARD'S ROLES

The National Science Board has two roles. It is the governing board of the National Science Foundation and it serves as a national science policy board, with the responsibility for monitoring the health of science and engineering in the United States, and for advising the Congress and the President on national science policy issues.

First, I would like to thank the subcommittee for its strong support of the Foundation in the past. Your continuing commitment to a strong national effort in research and education is extremely important to the NSF as we carry out our various responsibilities. Given the shortness of time, I would like to have your permission to submit my written statement in full for the record.

Senator BOND. The full statements of all three of you will be made a part of the record. We appreciate your submitting them and giving us a summary.

Dr. ZARE. Thank you.

And following the testimony of my colleagues, I would be pleased to respond to any questions that might illuminate the Board's positions on the NSF budget or national science policy.

PREPARED STATEMENT

I would like to cede the remainder of my time to Dr. Neal Lane, the NSF Director.

[The statement follows:]

PREPARED STATEMENT OF DR. RICHARD ZARE

Mr. Chairman, Senator Mikulski, and members of the Subcommittee, I appreciate the opportunity to testify before you. I am Dr. Richard Zare, Chairman of the National Science Board and Marguerite Blake Wilbur Professor of Chemistry at Stanford University. I would like to convey to you today some of the excitement and value to the Nation of the research and education activities that will be supported by the National Science Foundation's fiscal year 1999 budget request. I will also mention some of the work of the Board in helping to develop this budget, and in trying to understand possible effects of changes in Federal agency research programs on the broader picture of Federal support for research.

First, however, I would like to thank the Subcommittee for its strong support of the Foundation in the past. Your continuing commitment to a strong national effort in research and education is extremely important to the NSF as we carry out our various responsibilities.

The National Science Board is a 24-member body appointed by the President for six-year terms. We represent a broad cross-section of the Nation's leaders in science, engineering, and education, and include full-time researchers, educators, university officials, and industry executives. Since the founding of the NSF in 1950, the Board has exercised two roles: that of a national policy body, and that of a governing body for the Foundation. In many respects the latter role is similar to that of a corporate board of directors, but as a Federal entity we operate within the framework of policy guidance established by the Congress and the Administration.

The Board approves NSF's policies, budget proposals, new programs, and major multimillion-dollar awards, and generally oversees the fiscal and management operations of NSF as a whole. We work very hard to make sure that all of the Foundation's policies, systems, programs, and awards are of the highest quality, incorporate our best thinking, and reflect the perspectives of the communities we represent.

We continue to provide oversight to NSF as it develops methods and processes to comply with the present and forthcoming requirements of the Government Performance and Results Act. To provide oversight to the development of the GPRA strategic plan and the performance plan by the National Science Foundation, I established an NSB Task Force on GPRA. This task force reports to the NSB Committee on Audit and Oversight and has provided constructive guidance for these important documents.

In addition to our close and continuing oversight of NSF, the Board has a special role in monitoring the health of science and engineering in the U.S. and in providing advice on national policy in research and education. Last year the Board was asked by Presidential Science Advisor Jack Gibbons to contribute to the response of the National Science and Technology Council to the Presidential Review Directive on the Government/University Partnership.

The resulting NSB report on the "Federal Role in Science and Engineering Graduate and Postdoctoral Education" affirmed the critical importance of Federal support to graduate and postdoctoral education and offered more than a dozen recommendations to strengthen this overwhelmingly successful partnership in advanced science and engineering education for the future. With your permission, I would like to submit this report for the record.

The Board further, as part of its national policy role, has drawn attention to the need for improved coordination and decision making at the Federal level in funding of science and engineering research. Such improvements are needed to avoid gaps, overlaps, and a failure to meet priorities that may otherwise occur. To further this objective, the NSB, in its recently released "Working Paper on Government Funding of Scientific Research", urged initiation of a national dialogue among stakeholders in Federally-supported research to develop a broadly accepted methodology for priority-setting across fields of science. With your permission, I would like to submit this document to the record also.

Mr. Chairman, the budget before you has the wholehearted approval of the Board. In the face of very tight constraints on Federal discretionary spending, President Clinton has stepped forward to champion a 10 percent increase in NSF's 1999 budget. This important commitment to the strength of our national scientific infrastruc-

ture—which I hope will be shared by Congress—would enable NSF to help maintain U.S. world leadership in all aspects of science, mathematics, and engineering.

NSF funding is a vital investment in the Nation's future. The budget you are considering today will provide the means to fund thousands of worthwhile projects across the exciting frontiers of all fields of research, and it will fund important efforts to improve the Nation's education in science, mathematics, engineering, and technology.

As we enter the 21st Century and the third millennium, there is so much we don't know and need to explore and discover. You might think about the state of the world 1,000 years ago, when we were entering the second millennium and Leif Erickson and the Vikings sailed the oceans. Until recently, however, our understanding of the very deep ocean environment has remained the same as in the days of the Vikings.

NSF investments under the agency's Life and Earth's Environment theme hold tremendous possibilities for probing the mysteries of our natural world like the very deep ocean. Unidentified new life forms found thriving in the Earth's most extreme environments—like Yellowstone's hot springs, the sea ice of Antarctica, or the ocean depths—might revolutionize medicine, produce new materials for use in everyday life, and further our understanding of the origins of life itself.

Over this past century alone, incredible advances have occurred in fields like telecommunications. In 1898 telecommunications meant Morse code and Western Union. Today we are grappling with challenges unimagined at that time: how to handle the outpouring of information and data flowing from satellites, fiber optics, the Web, and other advanced telecommunications.

NSF has responded to these challenges by investing in a wide-ranging set of activities we call Knowledge and Distributed Intelligence, or KDI. Greater knowledge about how we learn and remember, or how we think and communicate, and the machine-human interface, could advance computers and communication technology beyond the current astonishing state. Such advancements hold immense potential as a driver of progress—an opportunity for all Americans. KDI is not simply about hardware; KDI is not simply about software; KDI is about the wherewithal to change and expand the way we communicate, research, and learn.

Knowledge and Distributed Intelligence as well as Life and Earth's Environment are exciting programs that cut across numerous fields of inquiry. While NSF continues, appropriately, to promote interdisciplinary activities, these activities are unlikely to be successful without strong disciplines at their core. The NSF fiscal year 1999 budget will allow NSF to maintain core competency while pursuing exciting initiatives that cut across disciplines. We need both the core investments and the flexibility to pursue emerging research opportunities.

The Foundation's fiscal year 1999 budget also is important for improving education in science and mathematics at all grade levels. The Board strongly believes that we must engage all children in inquiry-based, hands-on learning so that the next generation of workers, researchers, and leaders has the necessary science, mathematics, technology, and problem-solving skills to keep the United States a world leader in the 21st Century.

High standards with high accountability for student performance is the path to improved achievement in K–12 math and science. We must act on our high expectations, however, not just declare them. Indeed, the National Science Board's response to the recent 12th grade results of the Third International Mathematics and Science Study (TIMSS) was swift. We have created a Task Force on Mathematics and Science Achievement to consider the issues raised by the TIMSS report.

Later this year, building on a series of hearings organized by its Committee on Education and Human Resources, the Board will issue a policy report that clarifies the role of the science and engineering communities, especially higher education, in rallying as well as supporting schools, teachers, students, and families to the literacy and numeracy demands that all citizens now face. The next generation of workers, researchers, and leaders must have the necessary science, mathematics, technology, and problem-solving skills to keep the United States a world leader in the 21st century.

This proposed NSF budget would help keep America at the cutting edge of science. It would enable new discovery and educate the world's best scientists and engineers—setting the stage for the next millennium. It is good for the country, good for science, and good for economic growth. But most important, it is also good for the American people.

Strong support for NSF is clearly a keystone of our investment in the future. And strong support for the research performed or supported by other Federal agencies, in connection with their missions, is vital as well. Just taking the example of nanoscale science and engineering mentioned by Neal Lane demonstrates that this

cutting-edge research supported by NSF has applications for the R&D mission of many agencies, including DOD, NIH, DOE, and NASA.

The Board is very concerned about the funding of science and engineering research in the future. Indeed, we concluded our "Working Paper on Government Funding of Scientific Research", mentioned previously, by stating that changed global and domestic circumstances "* * * do not reduce the desirability of continued government funding of scientific research * * *. A nation requires a robust high-tech industry, a scientific talent base, and a vigorous research activity to prosper over the long term."

We are concerned as well for the possible fate of many research programs in other Federal agencies that complement those of NSF but which are currently being challenged. We urge the Congress, when considering funding for Federal agencies that have science, engineering, and education programs, to do so with explicit regard for the relationships among those programs across the government and with industrial research and development. It is important to take actions, in the national interest, that fortify the vitality of U.S. science and engineering.

Thank you, Mr. Chairman. I would be glad to take any questions.

THE NATIONAL SCIENCE BOARD

THE FEDERAL ROLE IN SCIENCE AND ENGINEERING GRADUATE AND POSTDOCTORAL EDUCATION

ABSTRACT

In response[1] to the request from the President's Science Adviser, John Gibbons, for a National Science Board contribution to the Presidential Review Directive on the Government/University Partnership (GUPPRD), the Board offered to provide its views on the role of the Federal government in graduate and postdoctoral education. In this paper, the Board examines the general framework of the partnership in graduate education established after World War II, affirms that the partnership has been highly successful for the Nation, and concludes that the Federal role in the partnership remains critical. The Board urges that the general principles of the partnership be maintained, but offers some recommendations on adjustments to increase the effectiveness of Federal policies and programs in advancing the objectives of this partnership.

The Board identifies some troubling issues that have emerged as a result of changes over the last fifty years, and offers recommendations to improve the effectiveness of the partnership for all concerned. The Board suggests new opportunities, particularly those offered by advances in communications technology, to expand the benefits of the partnership to a wider range of institutions in the academic research and engineering ecosystem, and to broaden the options for graduate students to experience environments outside the research university to supplement their core Ph.D. training. In addition, the Board draws attention to serious stresses in the partnership arising from administrative and accounting changes implemented by Federal funding and regulatory agencies. The Board provides recommendations in several areas: Federal support to the enterprise, breadth versus narrowness of graduate education, human resource policies, impact of Federal regulatory and funding practices on the culture of institutions. Finally, the Board comments on outstanding issues to be negotiated between the Federal and university partners.

I. INTRODUCTION

The education of graduate and post-doctoral students in a discovery-rich university research environment is at the heart of the post-World War II compact between the Federal government and universities. Federal support of U.S. graduate education in science and engineering has insured the global leadership of the United States in science and engineering and contributed robustly to our country's innovation and economic growth. In a time of extraordinary political and economic changes worldwide since the end of the Cold War, understanding the current status and clarifying the principles of Federal support for graduate education in science and engineering are matters of high priority.

This paper responds to the request of the Assistant to the President for Science and Technology that the National Science Board provide its views on the status of

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[1] This report was originally prepared as a contribution to the Government/University Partnership Presidential Review /directive (GUPPRD). It has been revised and issued as a report of the National Science Board.

graduate and postdoctoral education and the Federal role. It contributes to the ongoing review of the Federal/university partnership being conducted by the National Science and Technology Council in response to the Presidential Review Directive of September 26, 1996. In developing the views presented in this paper, the Board benefited greatly from a "Convocation on Graduate and Postdoctoral Education: The Federal Role," held at the October 8–10, 1997, NSB meeting in Houston, Texas. This symposium, which included presentations by a number of invited speakers, provided rich insights for the development by the Board of the comments and recommendations that follow.[2]

Principles of the Federal/University Partnership in Graduate Education

At the conclusion of World War II in 1945, Vannevar Bush argued persuasively in his report, "Science—the Endless Frontier", that the Federal government should continue to support science and engineering research and post-secondary education in peacetime and that this investment would contribute to national security, economic growth, health, and the quality of life. The principal instruments of the Federal investment in research were to be colleges and universities, which would generate new knowledge in an environment of free and open inquiry and at the same time develop science and engineering talent. The proximity and integration of the two functions of research and education would insure a process of continuous mutual enrichment between them.

Bush argued that the Nation could not rely on government agencies, the private sector, or foreign nations to produce the fundamental knowledge necessary for the continued improvement of the quality of life in the United States. Bush approvingly quoted James B. Conant: "We shall have rapid or slow advance on any scientific frontier depending on the number of highly qualified and trained scientists exploring it * * *. So in the last analysis, the future of science in this country will be determined by our basic education policy."[3] In short, Bush's report defined a national education policy for university- and college-trained science and engineering personnel that:

—is based on the national interest in advancement of knowledge in an environment of free and open inquiry, such as that provided by the university sector;
—explicitly integrates fundamental research and advanced training in science[4] in universities and colleges;
—supports students on the basis of their exceptional ability, i.e., student merit;
—is sensitive to the needs of the scientific and technical workforce; and
—is responsive to the needs of society.

The Federal/university partnership in research and graduate education has been an extraordinary success for the United States. Public investment in academic science and engineering research and education in an environment of free and open inquiry has indeed been a major contributor to U.S. economic growth and quality of life.

Therefore:

The National Science Board strongly affirms the fundamental soundness of the principles of the Government/university partnership for the academic science and engineering enterprise established after World War II.

The Board concludes that the application of those principles in academic science and engineering research and advanced education has enabled the enterprise to lead the world in quality and productivity.

The Board affirms that the Federal role is critical to advanced science and engineering education at both the graduate and postdoctoral levels. It urges a re-examination of the Federal/university partnership in graduate and postdoctoral education as it has evolved, to identify areas where adjustments may enhance the capacity of the enterprise to serve the national interest in a changing global environment.

Current Status of the Partnership

Since the Bush report, U.S. society has become larger, more diverse, and more urban and the economy has become increasingly global. With the end of the Cold War, greater national attention can be devoted to other concerns, such as environmental and social needs. Once the privilege of a small elite, post-secondary education responded to a changing marketplace. Market demand for higher-level training and the decline in the value of a high school diploma, both to the employer and

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[2] The agenda for the Convocation on Graduate and Postdoctoral Education: The Federal Role, is attached as Appendex II.

[3] Vannevar Bush. *Science, the Endless Frontier,* 40th Anniversary Edition (Washington DC: National Science Foundation, 1990) 23.

[4] Bush's proposal was for advancing basic scientific knowledge, which in today's use would include basic research in engineering.

high school graduate, have resulted in expansion of the share and diversity of the working age population who pursue college-level and graduate education. The Federal responsibility to insure, in partnership with the universities, "constantly improving quality at every level of scientific activity"[5] has become broader and more varied as science and technology have become more central to the economy and society.

Universities confront stresses that result from increasing demands and associated rises in costs without offsetting increases in revenues. These stresses reflect the impact of more and broader-based demands from an expanding group of stakeholders; budget constraints on traditional sources of funds, including Federal sources; globalization of advanced education; the need to respond to technological changes, especially to advances in communications and information technology; and unintended consequences of Federal policies. The Board has identified several broad areas of concern in the Federal/university partnership in graduate education that deserve special attention.

Changes in the Federal/University Relationship.—Agencies of the Federal government support research in universities through a variety of mechanisms, including grants, cooperative agreements, and contracts. Regardless of purpose or mechanism, the research activities serve to enrich the learning environment and expand opportunities for graduate student and postdoctoral participation in frontier research. Some Federal research funding to academic institutions is public investment in the advancement of fundamental knowledge and in the education of the next generation of scientists and engineers. This kind of relationship may be described as an "investigator-initiated" activity performed by the university. Other Federal research funding responds to an objective related to an agency's mission. This activity, also performed by a university, may be described as "agency-initiated." Federal funding falls along a continuum between these two poles.

As the research and education enterprise has grown and as the Federal investment has increased, emphasis on accountability for public funds has also increased, resulting at times in unintended but serious stresses on the university partners. The growing Federal focus on accountability tends to emphasize short-term research "products" and to deemphasize benefits to graduate education from engaging in research at the frontiers of knowledge. Increased emphasis on accountability also may result in an increase in the perceived value of postdoctoral researchers compared with graduate students on research grants, thus reducing options for cutting-edge research experience during graduate training.

There are also unintended consequences of some of the new cost accounting methodologies and standards which, with the best intentions of fully accounting for taxpayer money, are resulting in serious stresses on the academic research and education enterprise. There is a growing tendency to treat all research activities equally for accounting purposes, whether for an agency-initiated product or for investigator-initiated research that provides cutting-edge research experience for graduate students. This trend has been marked by the adoption of adversarial administrative procedures inconsistent with the trust and cooperation that should characterize the Federal/university partnership in research and education. Moreover, relationships between faculty researchers and the university administration may be adversely affected by such procedures, resulting in stresses within the university community.

In addition to the lack of coherence between objectives of the Federal/university partnership and Federal cost-accounting practices, there is an inconsistency in administrative and regulatory requirements of different Federal funding agencies. This inconsistency results in a mushrooming of paperwork for the administration of federally-funded research. Some portion of the paperwork burden falls on faculty, absorbing time that could otherwise be devoted to teaching, mentoring, and research. Unnecessary costs for administrative overhead may also mean less money available to support valuable research and education activities, equipment, and physical facilities.

The Changing Higher Education Context.—Stresses on the universities represent pressures that are a product of growth and change in the research enterprise and its environment over the last fifty years. One area of stress comes from the diversity that is a strength of our system of higher education. The academic science and engineering research and education system is an ecosystem, differentiated along functional lines to meet a wide variety of education and research needs. Within this system, research institutions produce, in addition to a share of science and engineering undergraduate degrees, the great majority of Ph.D.'s in science and engineering. Liberal arts colleges, state universities, and two-year colleges that provide under-

[5] *Ibid.*, 25.

graduate preparation for scientists and engineers employ as faculty Ph.D.'s trained at research institutions.

The Ph.D. is and should remain a research degree. The most important function of a Ph.D. program is to educate talented students to a level of mastery of a chosen discipline and its methods of research and scholarship. Graduates of the Ph.D. program, as members of their disciplinary communities, are prepared to make independent contributions to the store of human knowledge through research, information exchange with colleagues, and educating the next generation of scientists and engineers. Nonetheless it has always been the case that many Ph.D.'s who pursue academic careers fill faculty positions that are primarily teaching positions, often involving little or no research.[6] Moreover, Ph.D.'s who pursue research positions in industrial or government laboratories may well move into non-research positions over time. These are by no means inappropriate outcomes of Ph.D. education: Ph.D. recipients have broadly applicable skills; and the problem-solving abilities they acquire enrich their capacities in teaching, research and management positions.

Those who take faculty positions following completion of their education, regardless of the type of institution, have an obligation to remain current in and to contribute to their fields of specialization. The research university offers the greatest opportunities for fundamental research within the field of specialization. Today, however, rapidly advancing communications and information technologies are opening and expanding opportunities for inter-institutional cooperation in research and education within the academic sector, and also between academic institutions and other sectors. These opportunities for expanded collaboration, in addition to increasing faculty opportunities to contribute to fundamental knowledge, promise to enrich graduate and postdoctoral education by broadening options to experience a range of educational and research environments in preparation for a variety of future careers.

II. THE GOVERNMENT/UNIVERSITY PARTNERSHIP IN GRADUATE AND POSTDOCTORAL EDUCATION: PRINCIPLES AND PRACTICES FOR THE FUTURE

1. Federal Support to the Enterprise

Federal support to research in the academic environment may contribute to fundamental knowledge and enrich the education of the next generation of scientists and engineers, regardless of funding mechanism or agency objective. The Federal role in support of broad-based fundamental research and graduate education in universities, medical schools, research institutes and colleges remains crucial to the national interest. Graduate education is a long-term commitment, requiring substantial investment of time and money by the student, institution, and other funding sources.

A major objective of the Federal/university partnership in research and education historically has been to attract high-ability youth into science and engineering careers by providing significant multiyear financial support that is competitively allocated and based on the student's past achievement and future promise. This policy insures the quality of the science and engineering workforce and offers opportunities for careers in science and engineering to all individuals of high ability.

The Board recommends that:

The Federal government reward and recognize institutions that initiate model programs for the integration of research and education.

Mission agencies funding agency-initiated research in academic institutions recognize the intimate connection between research and graduate education in universities. They should adopt principles and practices exploiting that interconnection and insure that their funding reaps the dual benefits of simultaneously advancing both research and graduate education.

The Federal government contribute to promoting closer collaboration between faculty in non-research and research institutions. Such collaboration in research offers opportunities for greater exposure to a variety of career options for graduate students. It can also improve the transition from undergraduate to graduate programs across institutions. The improvement of that transition is especially important for reaching minority undergraduates. Federal investments, particularly in communications infrastructure, can expand the scope of these programs.

2. Breadth vs. Narrowness of Graduate Education

The core training for the Ph.D. requires the candidate to acquire the knowledge base and tools in a chosen area of science and engineering and to make an original

[6] Forty-six percent of Ph.D.'s were employed in the academic sector in 1995; of those, 59 percent were employed by non-research institutions.

contribution to the base of knowledge through an in-depth investigation in a specialized area. With this experience the candidate develops skills as a creative problem solver. In addition to this core training, universities can offer a range of opportunities for the student to consider in preparation for careers outside the research university, including those within the academic sector in primarily teaching institutions, and in government and industry.

The Federal government and universities are responsible for developing relevant experience and training to meet expanding workforce needs and to prepare the student for his or her chosen career. More should be done to inform graduate students of the full range of employment opportunities and careers and to offer a choice of options for expanding career-related training.

The Board recommends that:

University programs and Federal support policies continue to encourage exceptionally talented students to pursue Ph.D. programs and to develop their capacities to advance knowledge in their chosen disciplines.

The Federal partner recognize and reward institutions that, in addition to the core Ph.D. education, provide a range of educational and training options to graduate students, options tailored to the career interests of the individual Ph.D. candidate. These might include interdisciplinary emphasis, teamwork, business management skills, and information technologies.

3. Human Resource Policies

In spite of Federal and university efforts to increase the participation of underrepresented populations in graduate education and academic careers, the participation of these groups in graduate programs and on university faculties remains low, particularly in science and engineering fields.

Also of concern is the status of postdoctoral researchers in academe. After the Ph.D., many students continue their specialized training in postdoctoral appointments. The training they receive substantially enhances their preparation for careers in research in their area of specialization. These researchers are a significant component of the academic research and graduate education system, serving in some programs as an important component of the mentoring system for graduate students. Nonetheless, these researchers' status may be ambiguous during the period they spend in postdoctoral appointments, because they are neither graduate student nor faculty member in the institution where they are performing the research. There is a need for institutions to clarify the status of these important personnel.

The Board recommends that:

The Federal and university partners seek more effective ways of promoting diversity and full access to graduate education, guarding against strategies that inadvertently keep underrepresented groups from the mainstream of research and graduate education. Efforts should emphasize identification of high-ability students earlier in the educational experience, including the precollege level, and encouraging them to consider careers in science and engineering.

The Board recommends the attention of universities to the following areas:

To assure access for high ability students, examine the current use and possible misuse of assessment tools for entry to, and financial support or, graduate education, e.g. the Graduate Record Examination scores (GRE's); and

Recognize postdoctoral researchers as a significant component of the system of graduate research and education in some areas, and better integrate postdoctoral scholars into the university community.

4. Impact of Federal Regulatory and Funding Practices on the Culture of Institutions

Federal rules and regulations for the administration of Federal funds for research and education, and the competitive grant system itself, help shape the culture and working environment in universities. The Federal government must recognize in its policies and administrative requirements that research and education are integrated in the academic environment and insure that accounting requirements for academic research support objectives of the Federal/university partnership in advanced science and engineering education.

Negative impacts on education of some Federal regulations and practices for research administration may be cumulative. For example, the administrative separation of education from research may have a growing, unintended negative impacts on the university mission in graduate education. At the same time, emphasis on success in research by Federal funders may encourage a parallel emphasis in faculty reward systems in departments and institutions, in some cases to the detriment of education.

The Board recommends that the Federal government:

Support university-initiated efforts to insure in the science and engineering faculty reward systems an appropriate balance between recognition for excellence in research and excellence in teaching, mentoring, and other areas of faculty responsibility.

Examine how it can prevent unnecessary and unintentional interruptions in academic research programs and in associated support to graduate students that may result from the vagaries of the Federal research funding environment.

Review conflicting or confusing treatment of graduate students and postdoctoral researchers—as students or empoyees—in Federal regulations and policies. The review should entail consideration of both consistency across agencies and coherence between the purposes of regulations and administrative requirements and Federal objectives for supporting and integrating research and education in academic institutions.

III. ISSUES TO BE NEGOTIATED BETWEEN THE PARTNERS

Over the last fifty years, some issues in the partnership have emerged as gray areas, whose resolution is not clearly the responsibility of one partner or the other. An issue of particular concern is the broad impact of current funding patterns and practices on the national science and engineering workforce for the future. This consideration includes the responsibility to support a continued, adequate infusion of talented students from across the population spectrum into graduate programs in the broad range of science and engineering fields. There is a need to clarify the roles of the partners so that a strategy to address this and other gray areas can be framed.

The Board recommends that the following areas be explored:

Strategies to attract and retain talented students from underrepresented groups. These strategies might include consideration, in some cases, of criteria for support on research grants.

The respective Federal and university responsibilities for reducing the administrative burden on faculty researchers/teachers to increase time available for mentoring and other educational and service activities that enrich the learning environment. This reduction in administrative burden needs to be coupled with the alignment of faculty reward systems, as described in Section II.4.

Improved policy data to assess the effectiveness of current Federal support for graduate education including attention to attrition and time-to-degree, and to identify current and emerging national needs for the science and engineering workforce.

This exploration should include input from a broad range of stakeholders in graduate education and be attentive to maintaining the benefits of graduate and postdoctoral research and education in science and engineering for the Nation.

APPENDIX I

CURRENT ISSUES WITH REGARD TO THE FEDERAL ROLE IN SCIENCE AND ENGINEERING GRADUATE/POSTDOCTORAL EDUCATION

Issues that have been raised in other recent discussions of graduate education include: What are the principles of Federal support of graduate education today?[7]

—Is there a common purpose or purposes among Federal agencies in supporting research that involves graduate and postdoctoral students in universities and colleges? In what programs is the impact on science and engineering education an explicit consideration?

—What are the qualifications or requirements for S&E graduate and postdoctoral students to be supported on research grants by Federal agencies? What data are available to measure the impacts of support from research grants? (e.g., student demographics, retention, time to degree, field of degree, career after graduation).

—What programs are expressly directed to graduate/post-doctoral student support? (e.g., fellowships). By which agencies? In which fields? For what purposes? How successful are these programs in comparison with support from research projects?

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[7] The COSEPUP report, *Reshaping the Graduate Education of Scientists and Engineers* (1995), concluded that there is no coherent national policy that guides the advanced education of S&E's today. It suggested a national discussion group—including representatives of government, universities, industries, and professional organizations—should deliberately examine the goals, policies, conditions, and unresolved issues of graduate-level human resources in S&E.

Does the Federal role in the current partnership encourage the production of highly able scientists and engineers from the broad spectrum of the U.S. population who, in the aggregate, meet national needs for the S&E workforce?

—Does Federal support of graduate/postdoctoral students on research grants and/or directly on fellowships and traineeships help to attract and retain talented youth in science and engineering careers across the broad spectrum of the U.S. population?

—Are there special barriers to underrepresented groups in graduate/postdoctoral education in S&E that can be reduced through the Federal/university partnership?

—Are the Federal support modes, or mix of those modes, for graduate education effective in achieving Federal objectives for the science and engineering workforce?[8]

—Do Federal policies and programs affect or contribute to increasing time to degree?

—What is the national interest/impact of supporting foreign students on Federally-funded research grants?

—Is the current reliance on foreign students to meet the personnel needs for certain fields, supported in part by Federal research grants, a viable long-term strategy?

—Do foreign students compete with U.S. students for support on Federal research grants?

—Do large numbers of foreign students in some programs discourage talented U.S. students from pursuing graduate studies; are underrepresented groups impacted more by this factor?

Do Federal programs and policies for support of research in universities enrich the learning environment and support free and open inquiry?[9]

—To what extent does Federal support encourage narrow specialization in areas related to the immediate needs of mission agencies or faculty mentors?

—Does Federal support for graduate/postdoctoral research and education in universities encourage acquisition of skills and knowledge to prepare graduates for a broad range of research and teaching careers?

—Do Federal policies and support methods encourage dissemination of knowledge, and sharing of the benefits of research and graduate education throughout the host institution, and synergy among academic researchers, faculty and students, and researchers in other sectors?

—Is Federal support for graduate and postdoctoral research and education sufficiently sensitive to the important contributions to the national science and engineering research and education enterprise by the comprehensive universities, liberal arts colleges and other institutions not among the major research universities?

GOVERNMENT FUNDING OF SCIENTIFIC RESEARCH: A WORKING PAPER OF THE NATIONAL SCIENCE BOARD

INTRODUCTION

With the end of the Cold War and the need to reduce the size of the Federal deficit, all facets of the Federal budget have come under scrutiny, including the Nation's investment in research and development (R&D). There has been considerable discussion on proposals to reduce the Federal R&D budget and to reorder its priorities. The National Science Board (NSB) is specifically charged with assessing the health of science in the Nation and with advising the President and Congress on matters

[8] The NSB Task Force on Graduate and Postdoctoral Education (1995) after careful and thorough review concluded there were insufficient data to support a change in NSF policy on the mix of support for graduate education, i.e., research assistantships, fellowships and traineeships. It therefore recommended limited studies with defined goals and assessment criteria be conducted on alternative modes of graduate support; and that NSF support data collection and/or research on funding mechanisms and various aspects of graduate student education and employment of Ph.D. scientists and engineers.

[9] "The current graduate paradigm can be characterized best as an apprenticeship, in which the dissertation advisor has significant responsibility for not only the content but as well the duration of the program * * * stressing specialization and depth of investigation [it] is frequently accused of cloning the current cadre of research faculty." (James Duderstadt, Remarks to the National Science Board, August 1997).

of national science policy.[1] The Board therefore offers its perspective on the important issues this country confronts today concerning the funding of scientific research by the Federal government. Consistent with its charge, the Board has focused its efforts on issues affecting scientific research as distinct from development.

Peer review of proposals has long assured the funding of the best researchers with the best ideas. However, presently there is no widely accepted way for the Federal government in conjunction with the scientific community to make priority decisions about the allocation of resources in and across scientific disciplines.[2] We examine this complex issue and offer our views on this challenging task with two purposes in mind. The first is to guide future actions of the Board in reaching priority decisions about the budget of the National Science Foundation (NSF). The second is to engage the attention and participation of others in meeting this challenge by supplementing present procedures with other systematic ways to reach and prioritize decisions.

The rationale for the major Federal role in funding scientific research goes back some fifty years to the time after the end of World War II, when realization of the impact of science-based technology on the course of the war was keenly felt. The mood was expressed in Vannevar Bush's July 1945 report, "Science—The Endless Frontier".[3] It is natural to question the validity of the philosophy for today and, particularly, to examine the question of the coordination of federally-financed research.

The Board has studied the report, "Allocating Federal Funds for Science and Technology", issued in 1995 by a committee of the National Research Council chaired by Frank Press.[4] (We refer to this as the "Press report.") A major theme of that report is the need for some degree of coordination of federally-financed research. This idea is not totally new but was particularly well developed in the report. This timely and critical but highly controversial proposal merits careful attention at this time.

If it is in the Nation's interest for there to be some form of "comprehensive" and "coherent" coordination of federally-financed research,[5] it is necessary to have guidelines to provide clear direction on setting priorities within the Federal research budget. The Press report pointed out that guidelines were offered in the 1993 report of the National Research Council's Committee on Science, Engineering, and Public Policy (COSEPUP) "Science, Technology and the Federal Government—National Goals for a New Era."[6] The Board has considered the adequacy of the COSEPUP guidelines.

This working paper presents the Board's thinking on these subjects. With this paper, the Board hopes to encourage a much needed dialogue among appropriate stakeholders. The document is divided into four sections. The first section addresses the definitions of "research" and "development" and highlights the essential differences between them, particularly as they affect the possible government role in funding. Considerable confusion has been created by imprecise and sometimes improper use of the term R&D. The Board feels it is important to clarify this issue.

The second section revisits the justification articulated by Vannevar Bush for government funding of scientific research. It addresses some of the changes in the past fifty years that may have altered the justification but concludes that the need for government funding of research is just as critical today as it was at the height of the Cold War.

The third section examines the need for comprehensive coordination of federally-financed research. It concludes that such coordination could assist the President and Congress by providing a valuable addition to and improvement over the processes presently in place. However, implementation of such a policy would involve the difficult task of developing acceptable procedures.

The final section addresses the availability of guidelines to provide clear direction on setting priorities. It concludes that further study of priority setting methodologies

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[1] National Science Foundation Act of 1950, as amended, 42 U.S.C. Sec. 1861, *et.seq.* A particular responsibility of the Board in implementing this mandate is the biennial publication of *Science and Engineering Indicators.*

[2] Throughout this paper, "science" includes mathematics, engineering, and materials research.

[3] Vannevar Bush, "Science—The Endless Frontier" (40th Anniversary Edition, Washington, DC: National Science Foundation, 1990).

[4] National Research council, Committee on Criteria for Federal Support of Research and Development "Allocating Federal Funds for Science and Technology" (Washington, DC: National Academy Press, 1995).

[5] *Ibid*, p. 5.

[6] National Research Council, Committee on Science, Engineering, and Public Policy, "Science, Technology, and the Federal Government: National Goals for a New Era" (Washington, DC: National Academy Press, 1993).

involving appropriate stakeholders should be undertaken. The NSB recommends such a study and pledges its support for this effort.

SECTION I: DEFINITIONS OF "RESEARCH" AND "DEVELOPMENT"

Because this document focuses on research, it is appropriate to define "research" as distinct from "development," recognizing that there are instances where the boundaries blur.[7]

Research

Research is the search for new knowledge and concepts that unify and extend that knowledge. The work, stimulated by theoretical or practical questions, is conducted in the context of existing knowledge and paradigms. A paradigm is a guiding concept or model, based on accumulated knowledge, which is generally accepted as valid and useful.

Typically, research is designed to answer specific questions to fill gaps within the existing body of knowledge or to test the paradigm itself. Work which is intended to confirm or refine an existing paradigm may, in fact, contradict it, thus opening the way for a scientific revolution.

Practical applications of knowledge may range from new products and processes to the information base needed for management or policy decisions. An investigator may or may not have specific, practical applications for the results of his/her work when designing the research. However, extensive history has documented the fact that the most important applications and policy implications are not envisioned at the time of the research. This fact is most especially true of work that leads to new or greatly modified paradigms.

Development

Development is the process by which a new product or process is brought into being or improved based largely on existing knowledge and theory. In an industrial setting, development encompasses a wide range of activities, such as scale-up, packaging, or cost analysis. Here we will consider only the technical development by which the concept may be reduced to feasible practice. We have chosen not to address development efforts outside of the commercial sector, that is, development directed to achieving the mission of a sponsoring agency.

In general, development cannot occur based on existing knowledge and theory only, for there are inevitable gaps in the knowledge base. Experiments are typically designed in the development process to address these specific gaps. Thus development has some important features in common with research, though the questions in a technical development program tend to be of narrower scope than in research.

While there are research aspects to technical development, research does not naturally lead to development in any linear way. Rather, research and development are iterative, with development dependent on research, and often vice versa. Taken together, research and development may be defined as "technical innovation." Invention is possible at any stage in the technical innovation process and success is necessary at every stage to produce a commercially viable product or process.

Observations on the R&D Definitions

Research and development, as here defined, are related: not every activity can be clearly classified as one or the other. Additional phrases such as "applied research" or "exploratory development" have been created to provide finer definition of the gray areas between research and development. The above definitions are simpler and adequate for present purposes.

It should also be noted that success in technical innovation is necessary, but not sufficient, for commercial success. Many other factors influence the ultimate commercial success or failure of a new product or process. Some factors, such as marketing, distribution, design for manufacturability, and testing, are primarily the responsibility of industry. Other factors, such as the cost of capital, liability laws, environmental regulations, and tax policy are dependent on government actions and general economic conditions. It is, in fact, these interdependencies that necessitate close cooperation among the sectors—academy, industry, and government—to ensure the economic well-being of the Nation.

Our definitions distinguish research from development and also indicate the relationship between them. Discussion of support by the government must deal carefully with this relationship, while recognizing that the rationales for supporting the two are quite different.

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[7] Definitions of "research" and "development" are congruent with operational definitions for the National Science Foundation Survey of Industrial Research and Development.

It further should be noted that research and education are inexorably linked in U.S. higher education in science and engineering. During the undergraduate and graduate years, students learn the fundamentals of their fields. However, because the knowledge base is growing explosively, students must also learn how to learn, lest their education become obsolete. It is in this realm that research becomes a powerful part of both undergraduate and graduate education, which is one of the great strengths of the American higher education system. In research, students learn how to gather current knowledge, how to pose significant questions to further that knowledge base, and how to frame and implement an approach to address their questions. This research/education experience is invaluable training, not only for those continuing in research, but for the broader workforce and an informed public.

SECTION II: JUSTIFICATION FOR GOVERNMENT SUPPORT OF SCIENTIFIC RESEARCH

Prior to World War II, support for research by the government of the United States was largely focused on government missions and carried out by Federal employees in Federal establishments. The experience with weapons development during the war highlighted the enormous potential impact of the results of scientific research on national needs. It was also realized that academic research was a powerful engine for generating such results.

The government role in supporting research in the scientific community at large was greatly stimulated by the vision enunciated by Vannevar Bush. Bush wrote, "The Government should accept new responsibilities for promoting the flow of new scientific knowledge and the development of scientific talent in our youth. These responsibilities are the proper concern of the Government for they vitally affect our health, our jobs, and our national security."[8] Bush used the word "jobs" to describe what elsewhere he referred to as "prosperity" or "public welfare." The concept is now commonly referred to as "economic security." The three areas identified by Bush were those of most concern at the time. Were Bush writing today, he would probably add others, including "the environment," "green manufacturing," and "clean energy sources."

Bush saw the benefits of research accruing to a wide range of national needs rather than to a single objective, such as defense. Indeed, he concluded his letter to President Truman transmitting his report with a broad vision of the impact of science on quality of life: "Scientific progress is one essential key to our security as a nation, to our better health, to more jobs, to a higher standard of living, and to our cultural progress."[9]

Vannevar Bush clearly recognized that applications of research results often appear many years after the work is started and that there is no certainty as to which of the many national needs will benefit from this work. He also observed that "* * * basic research is essentially non-commercial in nature. It will not receive the attention it requires if left to industry."[10] Today this concept is recognized as a lack of "appropriability." Because of the long-term nature of research and the uncertainties in predicting its practical applications, a company cannot be certain that investment in research will result in a competitive advantage in the worldwide marketplace. Indeed, the increase in global competition has exacerbated the "appropriability" issue. It consequently has increased the need for government support of research.

The Bush vision encouraged the mission agencies to support research universities in fields that were deemed to have probable long-term relevance to their missions. It also led to the establishment of the National Science Foundation and the gradual building of its budget to the point that it has become a major source of support for science and engineering in our universities. The National Science Board was created with its dual mission of overseeing the activities of NSF and monitoring the health of science in the Nation.

As a result of implementing the Bush vision, our research universities have become the envy of the world. The application of new knowledge and talent in science has indeed created handsome benefits in the three areas Bush identified. We will cite just one example in each area. The understanding of the structure and properties of DNA opened up totally new opportunities to address health issues and provided the basis for the vibrant new biotechnology industry. Polymer and photochemical research led to the creation of photoresists that are key to the success of the microelectronics industry, which accounts for well over a quarter of a million jobs in the U.S. today. The atomic clock, which was based on research in atomic

[8] p. 8.
[9] p. 2.
[10] p. 22.

physics and was stimulated by needs in astronomy, provided a foundation for the development of the Global Positioning System to satisfy a critical defense need. More recently, it is creating a large commercial marketplace for everything from ships to backpackers.

In the fifty years since the end of World War II, major changes have occurred here and overseas that might have an impact on the rationale for government support of scientific research. Two of the most frequently cited are the end of the Cold War and the emergence of a global technological marketplace. Another is the increasing need for information and knowledge as a basis for policy and management decisions by institutions and individuals, to enable them to contend with the modification of natural and social environments that is occurring at increasing rates, over larger scales, and in fundamentally new ways.

Do these changes call for a major change in our attitude toward research? We believe that none would invalidate the justification for wise government support of research. Health, economic security, and national security remain as imperatives, and are now joined by social and environmental concerns. Only the sense of priority has changed. Defense priorities have decreased but competition from global science-based technological industry and environmental and social concerns have increased as no one would have dreamed in 1945.

Some Asian nations, most prominently Japan, have succeeded in building excellent high-tech industries in the absence of a publicly-accessible academic research base. At the same time, U.S. industry appeared to be faltering in areas such as consumer electronics and in fundamental research in manufacturing engineering. These observations have been used to suggest to some that government funding of science might not be required to enhance national prosperity. We believe that this is an incorrect conclusion stemming from a number of misunderstandings of the characteristics of research and development and their role in the total innovation process.

First, as discussed in the section on definitions, success in bringing high-tech products and services to the marketplace involves a total innovation process including functions such as research, development, manufacturing, marketing, and others. All of the functions involved must work well. The problems with the U.S. consumer electronics industry have been thoroughly studied and are well understood.[11] American firms lost market share to competitors with shorter product cycles, lower costs, and superior quality. Even excellent science will not compensate for such a weakness in the industrial environment.

Second, as also discussed in the section on definitions, the innovation process is an iterative, not a linear, process. While some very important product developments are triggered by new knowledge from research, the majority are stimulated elsewhere—by market needs, by manufacturing advances, and by ideas from the development laboratory. These product developments can proceed largely on the foundation of existing and widely understood scientific and technical knowledge. The consumer electronics industry fits this model as does the mature semiconductor industry. Thus, even nations without ready access to research capabilities can prosper and excel in these product lines.

The most obvious situation in which research can lead to a competitive edge for industry is where there is a fundamental breakthrough, a paradigm change. Here there may be opportunities to create whole new industries. The understanding of DNA was surely one such paradigm change. When this occurs, a nation with both a strong industry and a leading scientific capability can capitalize on its closer access to knowledge and talent to become first in the world market with the most innovative, profitable products and services. It is under these less frequent and highly unpredictable circumstances that research makes a critical contribution to industrial competitiveness.

There are other research benefits that can be at least as valuable. Basic expertise is needed to evaluate new technical opportunities regardless of their source. Whatever the extent of a nation's investment in research, some breakthroughs are bound to occur elsewhere. Having expertise in a field makes it possible to catch up with the originator in the implementation phase and even get to market ahead of the originator. In planning technical programs, whether in research or development, it is valuable to understand what can work and it can be even more valuable to know what cannot work. Finally, ready access to the talent in research universities, whether as employees or consultants, is an asset to industry in all facets of the innovation process. These benefits from research can be seen in the strength of our

[11] Richard S. Rosenbloom and William J. Abernathy, "The Climate for Innovation in Industry: The Role of Management Attitudes and Practices in Consumer Electronics," Research Policy, 11, no. 6 (1982):209–25.

information, chemical, and pharmaceutical industries and the competitive advantage they have gained from close access to basic science.

We conclude that changed circumstances in recent years do not reduce the desirability of continued government funding of scientific research. Changes in national priorities do not negate the potential of research benefits which are long term and uncertain in detail but have proved over time to be substantial. In the presence of global competition a nation should be strong in all facets of technical innovation and should have available a continuously renewed base of knowledge to inform its decisions and those of its citizens. A nation requires a robust high-tech industry, a scientific talent base, and a vigorous research activity to prosper over the long term.

SECTION III: COORDINATION OF FEDERALLY-FINANCED RESEARCH

We recognize that a degree of coordination of Federal research spending exists across disciplines and that during the last decade the Executive branch has taken steps to improve coordination of research across agencies in key areas. Indeed, the Office of Management and Budget in consultation with the Office of Science and Technology Policy provides annual budget guidance to all agencies participating in support of priority research areas in preparing the Federal budget for submission to Congress. Too, agency budget submissions must be developed in the context of the Government Performance and Results Act, which requires that agency supported research activities have measurable outcomes toward achieving agency missions. We note in particular that the committees of the National Science and Technology Council (NSTC) provide coordination in areas of special national interest, such as global change, the development of less polluting transportation, energy, specific health areas, childhood development, and the future of the U.S. program in the Antarctic.[12]

These efforts benefit from special Administration studies, including reports of the President's Committee of Advisors on Science and Technology (PCAST) and the NSTC.[13] But, beyond those special areas, coordination depends on individual agency-to-agency agreements, informal cooperation across agencies at the program level, and the memories of Congressional committees. Sometimes important decisions about the allocation of limited resources happen by default, without explicit weighing of alternatives. There remains a need to examine and coordinate the science and engineering research budget as a whole.

We are proposing that the Federal government take upon itself the high-level coordination of the diffuse sources of Federal funds for research as suggested in the Press report. Improved coordination and decision-making at the Federal level could lead to a better alignment of expenditures with respect to national priorities without in any way replacing the spontaneous generation of ideas and proposals by individual research workers and teams. Such coordination could correct deficiencies that will inevitably surface in its absence. The main deficiencies are gaps, overlaps, and failures to meet priorities.

Decentralized allocation will sometimes result in separate agencies unintentionally pursuing the same agenda.[14] Duplication of research efforts is not always a bad thing, even when funds are scarce. It may encourage competition among investigators and advances in knowledge across a broad front. Whether or not any particular duplication is desirable competition or wasteful overlap has to be decided explicitly. There is no reason to expect the optimum answer to arise by happenstance.

In exactly the same way, decentralized allocation will sometimes leave important areas of research inadequately covered. Individual funding agencies and individual researchers may incorrectly presume that others are pursuing particular topics and related areas. Although such gaps may correct themselves over time as the writers and readers of proposals see what has happened, this can be a wasteful process, and even quite destructive if young researchers decide to leave important unfunded fields. Coordination would allow one to see gaps in advance and judge whether they should be eliminated.

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[12] National Science and Technology Council, *Technology for a Sustainable Future/A Framework for Action*. Washington DC: U.S. Government Printing Office, 1994, and *Infectious Disease—A Global Health Treat*. Washington, DC: September 1995.

[13] President's Committee of Advisors on Science and Technology, *Federal Energy Research and Development for the Challenges of the Twenty-First Century*. Washington, DC: November 5, 1997. National Science and Technology Council, *National Security Science and Technology Strategy*. Washington, DC: OSTP, 1995.

[14] The funding environment is an ecosystem. Changes in a particular agency's budgets and programs may have unintended consequences by creating gaps in significant areas of research and increased pressure on other agencies that may not be in a position to respond.

Sometimes there will be a clear sense within the Federal government that some areas of research merit particularly high priority for social or economic reasons (examples: climate, hydrology, violence, materials, transportation, etc.). The uncoordinated generation of research proposals will not completely ignore such priorities, but cannot be expected to reflect them with great fidelity. It was already noted that important applications of research are not always foreseen when the research is planned. This observation does not deny that research aimed at a particular application is more likely to achieve it than research aimed in some other direction. Comprehensive coordination can achieve a rough conformity between accepted priorities and the allocation of resources. This fact becomes increasingly important when funds are scarce. As an extreme example, it is a common observation that completely decentralized modes of allocation run into particular trouble when budgets must be cut. At such a time it is easy for the general interest to be overridden by parochial interests.

Whenever there is some amount of comprehensive coordination and decision-making, it is supremely important that the criteria of choice be appropriate. There is no virtue in doing the wrong thing efficiently. Any scheme of oversight must begin with explicit discussion of and agreement about the goals to be achieved.

SECTION IV: FEDERAL SCIENCE PRIORITIES

Within the Federal budget, there should be an overall strategy for research, with areas of increased and areas of decreased emphasis. The budget as a whole should be adequate both to serve national priorities and to foster a world-class scientific and technical enterprise. To this end, Congress and the Administration need to establish a process that examines the complete Federal research budget before the total Federal budget is disaggregated. Departments and agencies should make decisions based on clearly articulated criteria that are congruent with the overall strategy.

Within the Executive branch, the interagency NSTC, and before it the Federal Coordinating Council for Science, Engineering and Technology (FCCSET), have successfully organized crosscutting research areas of national interest, such as global change, energy, transportation science, environmental science and technology, and human resources for the twenty-first century. However, in order for broader coordination and priority setting to be successful, general guidelines are required to provide clear direction.

The most recent effort by the scientific community to recommend guidelines for the allocation of research resources across all fields of science and engineering appears to be the COSEPUP report. That report proposes that Federal research resources be allocated among different scientific fields and Federal agencies and departments so that the United States will be among the leaders in all major fields of science and the leader in selected major fields.[15]

The National Science Board supports the spirit of the COSEPUP recommendations but believes that they may not go far enough. The COSEPUP criteria would assure that the United States would be competitive with, indeed somewhat ahead of, other nations. This, we believe, is highly desirable but may not be sufficient. In addition to questions of world leadership, one must also ask what is the appropriate scale of the investment to meet the needs of the greatest economic power in the world. Given the broad range of national needs that can benefit from the results of scientific research, the Nation may choose, and may be able to afford, to invest beyond the levels that the COSEPUP criteria would suggest. Thus the Board believes that further study is needed before a particular methodology for setting priorities is adopted.

To ensure the most effective use of Federal discretionary funding it is essential that agreement be reached on which fields and which investment strategies hold the greatest promise for new knowledge that will contribute most effectively to better health, greater equity and social justice, improved living standards, a sustainable environment, a secure national defense, and to extending our understanding of nature. It is intrinsic to research that particular outcomes cannot be foretold; but it is possible, indeed necessary, to make informed choices and to invest wisely. The need for better coordination and priority-setting is not related to cycles of fiscal constraint alone. It is, rather, an integral aspect of a sound, future-oriented strategy for the investment of limited Federal dollars.

Although the need for establishment of research priorities has been discussed often, no agreed upon method exists for carrying out this task. Moreover, no consensus has been built to support such a methodology. Several subfields of science have

[15] pp. 18–24.

long-established methodologies for producing ranked lists of new construction projects: for example, the Decadal Studies in Astronomy, the periodic reports of the High Energy Physics Advisory Panel (HEPAP) ranking accelerator projects, and the occasional reports ranking investments in x-ray and neutron scattering sources.

However, these priority-setting exercises have been within fields and subfields of science. We are aware of no examples of the scientific community agreeing on the relative priorities for investment across scientific fields. Although many scientists consider the task both undesirable and undoable, the National Science Board believes that this difficult task will become increasingly important and must be faced over the next few years.

The Board has concluded that an appropriate next step is to initiate a study of guidelines that go beyond those proposed in the COSEPUP report. The purpose of this task would be not to set priorities, but rather to undertake a study of how they might best be set. Specific charges would be to: [a] review, in light of changing circumstances, the goals for Federal investment in scientific research as stated in the Administration report, "Science in the National Interest;"[16] [b] examine what methodology and criteria might best be used to set priorities across different scientific fields and disciplines toward the attainment of those goals; and [c] consider what mechanisms will be effective in building broad public and scientific support for, and involvement in, priority setting. The study should involve the opinions of a diverse group including, among others, active researchers with breadth of vision.

The National Science Board recommends further study of priority-setting methodologies involving appropriate stakeholders. The Board believes that this task is of paramount importance to the future health of U.S. science and technology. It should be undertaken to assure the continued flow of wide-ranging benefits to society from Federal investments in science and engineering research. The Board offers its assistance on this critical task in any way that the President and the Congress would find helpful.

STATEMENT OF NEAL LANE

Senator BOND. Dr. Lane.

Dr. LANE. Mr. Chairman, Senator Mikulski, I really want to begin by thanking you and the subcommittee most sincerely for your consistent, bipartisan support of NSF science and engineering activities. I would especially like to thank you for your support of NSF's NGI activities in the recently completed settlement legislation which provided funding to help us play a leadership role in advancing networking in this country.

PLANT GENOME RESEARCH INITIATIVE

I am also pleased to note that many of the other initiatives championed by the subcommittee are integral parts of the fiscal year 1999 NSF budget request, such as the plant genome research initiative and significant increases in Arctic research and education.

Mr. Chairman, the fiscal year 1999 budget request for NSF represents an unprecedented vote of confidence from the President. If enacted, this budget would be the largest dollar increase the Foundation has ever received, as the President noted in his State of the Union Address. This investment will help set the stage for a new century of progress, through learning and discovery.

For the coming fiscal year, NSF requests $3.773 billion. And this represents roughly a 10-percent increase. Overall, that is over $340 million. This investment, part of the President's 21st century Research Fund for America, is all about keeping U.S. science and engineering at the very leading edge of learning and discovery.

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[16] William J. Clinton and Albert Gore, Jr., *Science in the National Interest* (Washington, DC: Office of Science and Technology Policy, 1994).

INVESTMENT IN KNOWLEDGE AND DISTRIBUTED INTELLIGENCE

I have attached to my testimony a more detailed summary of our budget request. So instead let me focus on a major theme in the request: NSF's continued investment in knowledge and distributed intelligence, or what we call KDI.

NSF's KDI investments aim to turn today's deluge of information into a wellspring of discovery, learning and progress. A great example of KDI's influence can be seen in the challenge of generating the massive sets of data needed to map the genomes of key crops like rice and corn, genomes that are as large or larger than the human genome. The generating of this data is the relatively easy part. The next and most important step will be to turn this information into useful knowledge—knowledge of how the different pieces of the genome do business and affect resistance to drought and diseases, yields, growth cycles, and other plant processes.

All of this will require developing networks and collaboratories of electronically connected scientists, to help us pick out key patterns from the underlying volumes of data and information. The power of KDI is enabling exciting discoveries in nearly all areas of science and engineering. For example, using interconnected facilities, located all over the country, scientists and engineers are able to remotely create, design and manipulate ordinary objects, like ceramics and metals, one molecule or even one atom at a time.

NANOTECHNOLOGY

This manipulation of materials at the smallest scales is commonly referred to as nanotechnology, the prefix "nano" meaning one-billionth of a meter, the scale at which most nanoscientists and nanoengineers work. NSF's support over the years has allowed nanoscale science and engineering to go from the realm of science fiction to science fact. Some scientists even envision nanofabricated objects that can change their properties automatically, or repair themselves. And when you think about it, it is not so outlandish. DNA molecules in our own bodies can replicate themselves with incredibly small rates of error.

Much of the inspiration for nanoscale science and engineering comes from the biosciences and bioengineering, making nanoscale science a perfect example of the integration of the physical sciences and the biosciences, the dry world and the wet world. These connections, across seemingly unrelated areas of science and engineering, highlight a central feature of NSF's fiscal year 1999 request, three integrating themes—KDI, life and Earth's environment, and educating for the future—provide a framework for the Foundation's investment strategy. And these are each discussed in greater detail in my written statement.

In conclusion, Mr. Chairman, let me emphasize that the entire NSF investment portfolio sets the stage for the 21st century research and education enterprise, focused on national priorities. Guiding all these activities is the Foundation's longstanding commitment to merit-based investments in learning and discovery that adhere to the highest standards of excellence. This request marks a significant step forward for U.S. science and engineering.

PREPARED STATEMENT

The requested increase of 10 percent provides a level of investment in keeping with the wealth of opportunity that science and engineering offer to society. In addition, it will help position America to remain a world leader in the information-driven economy of the 21st century.

Thank you.

Senator BOND. Thank you very much, Dr. Lane.

[The statement follows:]

PREPARED STATEMENT OF DR. NEAL LANE

Mr. Chairman, Senator Mikulski, members of the Subcommittee, thank you for allowing me the opportunity to testify on the budget request for fiscal year 1999 for the National Science Foundation. I want to begin by thanking you and the subcommittee for your generous show of support for NSF over the years. We appreciate the subcommittee's consistent, bipartisan support for NSF's science and engineering activities and we look forward to working with you during this year's appropriations process.

The fiscal year 1999 budget request for NSF represents an unprecedented vote of confidence from the President. If enacted, this budget would be the largest dollar increase the Foundation has ever received—as the President noted in his State of the Union address. This investment will help set the stage for a new century of progress through learning and discovery.

For the coming fiscal year, the NSF requests $3.773 billion. This represents a substantial increase—10 percent overall—over $340 million. This investment, part of the President's 21st Century Research Fund for America, is motivated by a clear vision of how science and technology can shape our future as a nation and drive progress, productivity and innovation across our society.

This budget request will allow NSF to continue our tradition of supporting a diverse array of excellent research and education activities ranging from individuals working on their own, to large, collaborative activities involving groups and teams of scientists and engineers. This investment in the best people and the best ideas will advance research and education across the frontiers and help keep U.S. science and engineering at the leading edge.

I have attached to my testimony a more detailed summary of our budget request, so let me instead focus on the major themes within our proposal.

NSF MAJOR THEMES FOR FISCAL YEAR 1999

NSF proposes to continue our investment in broad thematic areas that combine exciting opportunities in research and education with immense potential for benefits to society. These are not budgetary categories but integrating themes that help us coordinate activities across the Foundation and better articulate the connections between discovery and service to society. For fiscal year 1999 the major themes include Knowledge and Distributed Intelligence (KDI), Life and Earth's Environment (LEE), and Educating for the Future (EFF).

Knowledge and Distributed Intelligence

The explosive growth in computing power and communications connectivity has brought forth unprecedented opportunities for providing rapid and efficient access to knowledge and information, for studying complex systems, and for advancing our understanding of learning and intelligent behavior of people and machines. KDI is a Foundation-wide effort that aims to improve our ability to discover, collect, represent, transmit, and apply information.

Within the KDI theme we intend to emphasize research on knowledge networking, learning and intelligent systems, and new challenges to computation. Also included is a request for $25 million to continue our support for research and infrastructure related to the interagency Next Generation Internet program. The request also continues investments in the very high-speed backbone network, which has brought new levels of networking capabilities to many of the nation's research universities.

Life and Earth's Environment

The fiscal year 1999 request looks to expand support for specific activities that relate to our second theme of Life and Earth's Environment. LEE encompasses a

wide range of activities on the complex interdependencies among living organisms and the environments that affect, sustain, and are modified by them.

Fiscal year 1999 investments will emphasize research on life in extreme environments, urban communities, environmental technologies, global change, integrated environmental research challenges, and environmental observatories. Within LEE, funding for the U.S. Global Change Research Program will emphasize climate modeling, earth system history, human dimensions of global change, and global ecology.

Educating for the Future

The request also includes continued support for innovative approaches aimed at meeting the challenge of educating students for the 21st Century. For example we intend to provide:

—$25 million to initiate a program on Research on Education and Training Technology—a joint research initiative with the U.S. Department of Education. This program is a direct outgrowth of the recommendations by the President's Committee of Advisors on Science and Technology (PCAST) for a research program focused on "the efficacy and cost-effectiveness of technology use within our nation's schools." The program will include support for efforts such as basic research on educationally relevant technologies, research aimed at developing new forms of educational software, and studies to determine the best and most effective ways to use new technologies in the classroom.

—$28 million for joint efforts with the U.S. Department of Education to fund peer reviewed proposals in K–8 mathematics education to focus on the professional development of teachers and on the implementation of standards-based instructional materials.

—Nearly $9 million to initiate a Children's Research Initiative that focuses on children's cognitive development and readiness to learn.

—Significant increases for NSF-wide programs that stimulate the integration of research and education including a 14.5 percent increase for the REU (Research Experiences for Undergraduates) program, a 16 percent increase for the CAREER (Faculty Early Career Development) program, and a nearly 35 percent increase for the IGERT (Integrative Graduate Education and Research Training) program.

NSF INVESTMENTS: MEETING THE CHALLENGES OF THE 21ST CENTURY

As I mentioned at the outset of my remarks, NSF investments in the best people and the best ideas will help keep U.S. science and engineering at the leading edge. Above all, however, I believe that these activities will enable new discoveries that result in the new knowledge that will help our nation address some of the most critical challenges of the 21st Century. These challenges include better health, increased economic well-being and opportunity for all citizens, a cleaner environment and better schools for our children.

We are also facing critical challenges relating to the information age. "Drinking from a firehose" is how many people describe the challenge of coping with the information deluge flooding our society today. As recently reported in the San Jose Mercury News, "* * * only seven percent of the information expansively collected in corporate databases is used—the rest just sits there, gathering the electronic equivalent of dust."[1]

NSF investments in Knowledge and Distributed Intelligence (KDI) aim to turn this information deluge into a wellspring of discovery, learning and progress. Doing this requires much more than just building bigger and better machines. It requires addressing some of the most fundamental questions and challenges in all of science and engineering such as the workings of the brain, how we learn and the nature of intelligent behavior.

I have long felt that the questions and challenges of KDI are best exemplified by the NECK-top computer, not by the desktop computer. Our own brains are among the most complex, efficient and powerful instruments on Earth, yet we are just beginning to understand how our brains operate or understand how we learn.

Understanding the workings of the brain is critical if we are to treat disorders like dyslexia, Alzheimer's and Parkinson's. But solving the mysteries of the brain requires answers to more than just medical questions, it requires fundamental breakthroughs across a number of scientific and engineering fields.

To better understand the brain's secrets, researchers have to be able to view it functioning in real time. NSF support has enabled the first real-time magnetic reso-

[1] Robert S. Boyd, "Project aims to make what's available on the Net manageable," San Jose Mercy News, February 10, 1998.

nance imaging (MRI) of the brain. This required bringing together cutting-edge work in statistics, neuroscience, and computer science. Because the imaging process shows how areas of the brain "light up" when in use, it is yielding invaluable insights into our understanding of learning and other cognitive processes. Of course MRI technology came out of physics—another reminder that the physical sciences underpin much of biomedical research and medical technology.

Another area that gets a great deal of attention is NSF's support of faster and more experimental computer and communications networks that will better link researchers and educators at colleges and universities. The use of high-speed networks to enable distributed groups of scientists and engineers to work together as one—in almost real time—is transforming the way discoveries and innovations are occurring. Their use of these cutting edge experimental systems will also lead to more powerful communications tools for society.

The NSF-supported National Nanofabrication Users Network is a good example of such a distributed network or "virtual center" as some like to describe the arrangement. In the "virtual center" concept, high speed connections allow any researcher—regardless of where he or she may be located—to remotely use the capabilities and instruments of each of the five locations across the country[2] that constitute the users network.

And while the Nanofabrication Users Network is an exciting example of how KDI can transform discovery, the actual research conducted over the network is probably even more exciting. By using the facilities connected through the network, scientists and engineers are able to create, design and manipulate ordinary objects like ceramics or metals one molecule or even one atom at a time. This is research and engineering at incredibly small scales—a nanometer—often the measure used in this research—is one billionth of a meter, about the length of 3 or 4 atoms. If I were asked for an area of science and engineering that will most likely produce the breakthroughs of tomorrow, I would point to nanoscale science and engineering, often called simply "nanotechnology". The general idea of nanotechnology is not new—it has been studied since Nobel laureate Richard Feynman outlined the idea in a speech in 1959—but only recently have scientists been able to glimpse Feynman's vision by creating rudimentary nanostructures.

NSF support over the years has allowed nanoscale science and engineering to go from the realm of science fiction to science fact. One of the most notable NSF-supported discoveries was the Nobel Prize winning discovery by Richard Smalley and Robert Curl at Rice University and Harry Kroto of Sussex University in England of a hollow form of carbon known as Buckyballs. Subsequent research has shown that a related class of molecules—the fullerenes—can form "nanotubes" only a few atoms in diameter[3] that could be the basis for a stunning array of new environmentally friendly, carbon based materials never known before.

The possibilities of nanotechnology are endless. Entirely new classes of incredibly strong, extremely light and environmentally benign materials could be created. Other possibilities include:

—New generations of metals and ceramics several times harder and more ductile that today. This could enable the creation of inexpensive and readily available superconductive materials;

—medical implants that are constructed to be accepted by the body; and

—medical probes so small that they won't damage the tissue.

Some nanoscale scientists and engineers even envision nanomanufactured objects that could change their properties automatically or repair themselves. When you think about it, this idea is not so outlandish—DNA molecules in our own bodies can replicate themselves with incredibly small rates of error. Much of the inspiration for nanoscale scientists and engineers comes from the biosciences and bioengineering—making nanoscale science a perfect example of the integration of the physical sciences and biosciences.

THE BOTTOM LINE

Through these and other investments described in our budget request, NSF's portfolio sets the stage for a 21st Century research and education enterprise that continues to lead and shape the information revolution, addresses key national priorities in such areas as the environment and nanotechnology, improves teaching and learning at all levels of education, and commits itself to reaching out and advancing pub-

[2] The five NNUN sites are: Stanford University, UC Santa Barbara, Cornell University, Penn. State, and Howard University.

[3] "Next Electronics Breakthrough: Power-Packed Carbon Atoms," The New York Times, February 17, 1998, Malcolm W. Browne.

lic understanding of science and technology. Guiding all of these activities is the Foundation's longstanding commitment to merit-based investments in learning and discovery that adhere to the highest standards of excellence.

A wealth of evidence testifies to the impressive returns generated by these investments. One ground-breaking study funded by NSF and published in the Fall 1997 issue of the journal Research Policy found a rapidly growing linkage between industrial innovation and scientific research. The study examined patents in key areas of industrial technology, including biomedicine, chemistry, and electrical components. It found that nearly three-fourths of the research papers cited by U.S. industry patents are what the study termed "public science"—papers authored at universities, government laboratories, and other public and non-profit centers. Furthermore, the research underlying the cited papers was found to be heavily supported by NSF and other federal agencies.

These latest findings add to an already compelling body of evidence on the contributions of fundamental science and engineering to economic growth, productivity and innovation. As President Clinton noted in a speech given on December 16, 1997: "Half our economic growth in the last half-century has come from technological innovation and the science that supports it."

This request marks a significant step forward for U.S. science and engineering. The requested increase of 10 percent provides a level of investment in keeping with the wealth of opportunity that science and engineering offer to our society. In addition, rigorous priority setting within the investment framework, with its emphasis on multidisciplinary approaches and the integration of research and education, will help position America to remain a world leader in the information-driven economy of the 21st Century.

Thank you.

NATIONAL SCIENCE FOUNDATION FISCAL YEAR 1999 BUDGET REQUEST OVERVIEW

The National Science Foundation requests $3.8 billion for fiscal year 1999, a 10 percent increase over fiscal year 1998, to invest in nearly 20,000 research and education projects in science and engineering. This investment, part of the President's Research Fund for America, is motivated by a clear vision of how science and technology can shape our future as a nation and drive progress, productivity and innovation across our society.

The discovery 100 years ago of the electron led to a broad range of industrial technologies. The transistor—first developed 50 years ago—was foremost among these, as it ushered in what has become the "information revolution." Today, 3 million transistors can fit on a chip no larger than those first fingernail-sized individual transistor devices, with cost-savings of a similar scale. The future holds the possibility of even greater gains. NSF's investments in nanotechnology and "thin films" are expected to help generate a further 1,000-fold reduction in size for semiconductor devices, which will make computers, telecommunications and other advanced technologies even more powerful, more portable, more affordable, and more useful.

Technology is beginning to live up to its promise in education. NSF today invests in a number of efforts that give students at all levels the chance to witness the leading-edge of science and engineering. Writing in the July 28, 1997 issue of Business Week magazine, a teacher from Lamar County, Georgia credited these NSF-supported activities with helping to "show rural kids * * * that they can become scientists." The students "get to know working researchers. They read their journals on line, have their questions answered, and watch researchers on closed-circuit TV from such places as Antarctica [and] aboard aircraft flying in the stratosphere."

This winter, a team of researchers is living on an icebreaker that is frozen into the pack ice in the Arctic Ocean, drifting with the ice floes as a floating science station. The project is part of a set of activities known as SHEBA (Surface Heat Budget of the Arctic Ocean), which pulls together data and information on how the sun, clouds, air, ice, and ocean interact and affect the annual melting and refreezing of the Arctic ice cap. This has long been a major uncertainty in climate models, and the SHEBA project has already helped to fill what one observer termed "embarrassing holes" in our understanding of climate change.

More and more practical benefits are emerging from science and engineering "at the extremes." Just over 30 years ago, researchers discovered a hot-water-loving microbe living in the thermal pools and geysers at Yellowstone National Park. The unique properties of this "hyperthermophile" were key to the development of the polymerase chain reaction, or PCR, the so-called Swiss army knife of molecular biology that has led to DNA fingerprinting, enzymes for non-polluting detergents' and a myriad of state-of-the-art materials.

These striking examples speak to the priorities and directions contained in NSF's fiscal year 1999 Budget Request. The request is built upon NSF's strength—a broad base of research and education in science and engineering that enables people and ideas to flourish. This strength is derived from the agency's effective use of merit review to identify the most promising ideas and most capable researchers and educators. NSF's investment strategy also emphasizes focused emerging areas that hold great promise both from a research and education standpoint and as drivers of economic growth and societal benefit.

NSF FUNDING BY APPROPRIATION

[In millions of dollars]

	Fiscal year		Percent change
	1998 Current plan [1]	1999 Request	
Research and Related Activities	2,545.70	2,846.80	11.8
Education and Human Resources	632.50	683.00	8.0
Major Research Equipment	109.00	94.00	−13.8
Salaries and Expenses	136.95	144.00	5.1
Office of Inspector General	4.85	5.20	7.2
Total, National Science Foundation	3,429.00	3,773.00	10.0

[1] In addition, in fiscal year 1998 NSF was provided $23 million from the Internet domain name registration fees.

HIGHLIGHTS AND PRIORITIES

The fiscal year 1999 request provides over $2.1 billion, a 12.0 percent increase, for investments in research project support across NSF's appropriations. Education and training activities across the Foundation increase by 10.7 percent to a level of $737 million. Funding priorities throughout this request are shaped by NSF's ongoing strategic planning process which identifies research and education activities to advance science and engineering across all fields and disciplines.

NSF will provide significant resources for efforts to address serious concerns about grant sizes. The substantial increase will enable NSF to support forefront research activities across the Foundation by increasing award sizes and award durations, with particular attention to new investigators. These efforts will contribute to increasing the efficiency of the Foundation's merit review process and achieving greater cost-effectiveness for both NSF and the university community.

Among the priorities for fiscal year 1999 are activities associated with the areas of Knowledge and Distributed Intelligence (KDI), Life and Earth's Environment (LEE), and Educating for the Future (EFF). These represent areas for focused investment which combine exciting opportunities in research and education with immense potential for benefits to society.

Knowledge and Distributed Intelligence.—The explosive growth in computing power and communications connectivity has brought forth unprecedented opportunities for providing rapid and efficient access to knowledge and information, for studying complex systems, and for advancing our understanding of learning and intelligent behavior. KDI is a Foundation-wide effort that aims to improve our ability to discover, collect, represent, transmit, and apply information.

The fiscal year 1999 request includes an increase of almost $78 million to substantially enhance specific activities that relate to Knowledge and Distributed Intelligence. Key emphases in fiscal year 1999 include research on knowledge networking, learning and intelligent systems and new challenges to computation. Also included are activities related to the Next Generation Internet to increase basic understanding and usability of networks. The request also continues investments in the very high-speed Backbone Network Service, which has brought new levels of networking capabilities to the nation's research universities.

Life and Earth's Environment.—The fiscal year 1999 request includes an increment of more than $88 million for specific activities that relate to the theme of Life and Earth's Environment. LEE encompasses a wide range of activities designed to foster research on the complex interdependencies among living organisms and the environments that affect, sustain, and are modified by them.

Fiscal year 1999 investments will emphasize research on life in extreme environments, urban communities, environmental technologies, global change, integrated

environmental research challenges, and environmental observatories. Within LEE, funding for the U.S. Global Change Research Program increases by 12 percent, with emphases on climate modeling, earth system history, human dimensions of global change, and global ecology.

Education for the Future.—The request includes continued support for innovative approaches that are intended to meet the challenge of educating students for the 21st Century. NSF's fiscal year 1999 investments in EFF activities increase by $107 million and include:

—$25 million to initiate a program on Research on Education and Training Technology—a joint research initiative with the U.S. Department of Education.
  —This program is a direct outgrowth of the recommendations by the President's Committee of Advisors on Science and Technology (PCAST) for a research program focused on "the efficacy and cost-effectiveness of technology use within our nation's schools."
  —The program will include support for efforts such as basic research on educationally relevant technologies, research aimed at developing new forms of educational software, and studies to determine the most effective educational approaches and practices.
—A $28 million increase for a joint effort with the U.S. Department of Education in K–8 mathematics education to focus on the professional development of teachers and on the implementation of standards-based instructional materials.
—Nearly $9 million to initiate a Children's Research Initiative that focuses on children's cognitive development and readiness to learn.
—Significant increases for NSF-wide programs that stimulate the integration of research and education including a 14.5 percent increase for the REU (Research Experiences for Undergraduates) program, a 16 percent increase for the CAREER (Faculty Early Career Development) program, and a nearly 35 percent increase for the IGERT (Integrative Graduate Education and Research Training) program.

ADDITIONAL HIGHLIGHTS FOR FISCAL YEAR 1999

Complementing activities related to these themes are a number of other Foundation-wide programs designed to address particularly important elements of the support of research and education.

Arctic Research and Education.—Recognizing the importance of the Arctic to studies of resource development and global phenomena such as climate change and ocean circulation, NSF's fiscal year 1999 Request includes more than $80 million for investments in Arctic research and education across the Foundation. Within this amount, funding for Arctic logistics more than doubles.

Emphases of NSF's enhanced activities in the Arctic include: expansion of logistical capabilities, research platforms and facilities; extension of education and outreach activities, especially those exploring new technology venues and distance learning; connections to Year of the Ocean activities; increased scientific cooperation at international levels; and further development of research programs on the human dimensions of global change.

Major Research Equipment.—The Request includes $94 million for Major Research Equipment, which will support:

—Initial investments in the construction of detectors for the Large Hadron Collider,
—Support for the ongoing modernization of South Pole Station,
—Continued prototype development for the Millimeter Array,
—Construction of the Polar Cap Observatory, and
—Reconfiguration of polar support aircraft.

Plant Genome Research.—NSF will provide $40 million to continue investments in the Plant Genome Research Program begun in fiscal year 1998. This effort is built upon an existing base of genome research supported by NSF. The overall goals of the NSF Plant Genome Research Program are to support research that will advance our understanding of the structure, organization and function of plant genomes, with particular attention to economically significant plants, and to accelerate utilization of new knowledge and innovative technologies toward a more complete understanding of basic biological processes in plants.

GOALI.—Support for the GOALI program (Grant Opportunities for Academic Liaison with Industry) will total almost $34 million, an increase of 13 percent, to facilitate collaborative research activities between academe and industry.

EPSCoR.—Funding for EPSCoR (the Experimental Program to Stimulate Competitive Research) will total more than $50 million. This includes $38 million provided through the Education and Human Resources appropriation, and approxi-

mately $15 million through NSF's research programs, to enable researchers supported through EPSCoR to participate more fully in other Foundation-wide activities.

Other Areas of Opportunity.—NSF will enhance investments in areas of opportunity across NSF, in priority areas such as nanoscale science and nanoengineering, bioengineering, research on the quantum realm, active tectonics, and innovative human/computer interfaces to aid persons with disabilities.

GLOBE.—NSF continues its participation in the interagency Global Learning and Observations to Benefit the Environment Initiative (GLOBE). The GLOBE Program provides environmental science education to K–12 students in more than 3,500 schools and 45 countries.

THE BOTTOM LINE

Through these investments, NSF's portfolio sets the stage for a 21st Century research and education enterprise that continues to lead and shape the information revolution, addresses key national priorities in such areas as global change and the environment, improves teaching and learning at all levels of education, and commits itself to reaching out and advancing public understanding of science and technology. Guiding all of these activities is the Foundation's longstanding commitment to merit-based investments in learning and discovery that adhere to the highest standards of excellence.

A wealth of evidence testifies to the impressive returns generated by these investments. One ground-breaking study funded by NSF and published in the Fall 1997 issue of the journal Research Policy found a rapidly growing linkage between industrial innovation and scientific research. The study examined patents in key areas of industrial technology, including biomedicine, chemistry, and electrical components. It found that nearly three-fourths of the research papers cited by U.S. industry patents are what the study termed "public science"—papers authored at universities, government laboratories, and other public and non-profit centers. Furthermore, the research underlying the cited papers was found to be heavily supported by NSF and other federal agencies.

These latest findings add to an already compelling body of evidence on the contributions of fundamental science and engineering to economic growth, productivity and innovation. As President Clinton noted in a speech given on December 16, 1997: "Half our economic growth in the last half-century has come from technological innovation and the science that supports it."

Recent NSF-supported work, for example, has led to:

—Identification of genes that control flowering and self-fertilization in crops;

—Environmentally-friendly processes for manufacturing the aluminum-based ceramics used in circuit boards and car parts;

—An "optical resonator" that could increase the capacity of fiber optic cables by a factor of 10;

—New approaches to drug development that can aid in the fight against antibiotic-resistant bacteria, and

—Computer-aided text and speech generation and recognition systems to aid persons with disabilities.

NSF's fiscal year 1999 request seeks to increase the already high returns on the taxpayer's investment. A special emphasis is placed on activities that improve the productivity and efficiency of research and education. Providing larger award sizes with longer award durations, for example, can enable forefront research, improve research productivity, and contribute to reducing the administrative burden on both NSF and the university community. Similarly, priority is given throughout the Foundation to activities—such as the GOALI program—with strong ties to industry and other potential users of the results generated by NSF-supported activities.

This request marks a significant step forward for U.S. science and engineering. The requested increase of 10 percent provides a level of investment in keeping with the wealth of opportunity that science and engineering offer to our society. In addition, rigorous priority setting within the investment framework, with its emphasis on multidisciplinary approaches and the integration of research and education, will help position America to remain a world leader in the information-driven economy of the 21st Century.

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

STATEMENT OF KERRI-ANN JONES, PH.D., ACTING DIRECTOR

Senator BOND. Dr. Jones.

Dr. JONES. Thank you. Mr. Chairman, Senator Mikulski, I am pleased to appear before you today to discuss OSTP's budget request for fiscal year 1999.

The administration is encouraged and welcomes the current efforts in Congress to establish targets for growth in science and technology funding. As you well know and have stated in your opening statements, funding for science and technology is an extremely high-leverage investment for our country.

My written testimony discusses the state of the entire science and technology enterprise during the past year. I would like to take this time to briefly describe the mission of OSTP and our fiscal year 1999 request.

RESPONSIBILITIES OF OSTP

OSTP has two primary responsibilities: The first, advising the President on science and technology; and the second, providing leadership and coordination of our Federal S&T effort. In the 1950's, President Eisenhower recognized the need for expert science and technology counsel. He invited James Killian, then the president of MIT, to Washington, to head the first President's Science Advisory Committee, an OSTP predecessor. Since then, our Nation's Presidents have drawn on the expertise of our office for science and technology policy advice.

Within our agency, a small staff of professionals analyzes developments at the frontiers of scientific knowledge and provides advice to the President. OSTP also provides scientific and technical information and recommendations to the Vice President, other offices of the White House, executive branch agencies, and to Congress.

A second responsibility of OSTP is to provide leadership and coordination across the Federal S&T enterprise. The National Science and Technology Council is an invaluable partner with OSTP in developing interagency coordination, evaluations and new initiatives.

I ask today for your continued support of OSTP's role in coordinating S&T policy for the executive branch and for our Nation at large. OSTP's budget request of $5.026 million for fiscal year 1999 represents an increase of less than 2 percent. This will allow OSTP to fulfill its responsibilities.

After freezing our request at the fiscal year 1996 enacted level for 2 consecutive years, this increase is essential to continue to provide quality support to the President and information to the Congress. Since personnel costs constitute the largest portion of the OSTP budget, our fiscal year 1999 budget request reflects our com-

mitment to operate more efficiently and cost effectively, without compromising the essential element of a top-caliber science and technology policy office—that is, high-quality personnel.

OSTP, in meeting its mission of advice, leadership and coordination, oversees two distinct organizations for developing policy. These are the National Science and Technology Council [NSTC] and the President's Committee of Advisors on Science and Technology [PCAST].

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

To meet the administration's priority goals in science and technology, we must combine the efforts and the expertise of multiple agencies. OSTP personnel support NSTC, the cabinet-level council that coordinates interagency efforts and initiatives. Our distributed system of research funding places a premium on coordination between complementary agency programs. NSTC, now in its fifth year, is improving such coordination.

NSTC membership includes cabinet secretaries, heads of science and technology agencies, and key White House officials. In the process of generating specific budgetary and policy recommendations, NSTC routinely reaches out beyond the Federal Government to the private sector and public interests.

PRESIDENT'S COMMITTEE OF ADVISORS ON SCIENCE AND TECHNOLOGY

As Assistant to the President for Science and Technology, the Director of OSTP cochairs the PCAST committee with John Young, former CEO of Hewlett-Packard. PCAST consists of distinguished individuals from industry, education, research institutes, and other nongovernmental organizations. This serves as the highest level of private-sector advice for the President and for the NSTC.

Mr. Chairman and Senator Burns, I hope that this provides a brief overview, combined with my written statement. And I hope it conveys to you the importance of S&T to our national interest, the extent of this administration's commitment to this effort, and the role of OSTP. Regardless of party affiliation, we all agree that the investments in science and technology are in our Nation's interest. I ask for your support for OSTP's fiscal year 1999 budget.

PREPARED STATEMENT

I also wish to express my appreciation to this committee for its longstanding bipartisan leadership and support.

Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF KERRI ANN JONES

Mr. Chairman, Members of the Committee, I am pleased to appear before you today to discuss the Office of Science and Technology Policy's (OSTP) budget request for fiscal year 1999.

I very much welcome, and am encouraged by the current efforts in Congress to establish targets for growth in S&T funding. As you know, funding for S&T, like funding for education, is a high leverage investment in our continued quest for peace and prosperity. Support for such investments has traditionally been a matter of bipartisan agreement. It is imperative that we build common ground in support of a shared vision—a commitment to keep America the world's leader in S&T.

As we approach the turn of the century, it seems appropriate to take stock of the Nation's science and technology (S&T) enterprise, and to look to the future—to the opportunities that lie ahead as well as the challenges that we face. The Information Age, driven by rapidly advancing S&T, is bringing changes to our society that are only beginning to unfold. Already, new communications technologies are transforming the way we work, where we work, and what we need to know to be successful in tomorrow's competitive environment. Five years ago, "Internet" was still a word known mostly to those in S&T. Today, this offspring of federal research activities is the backbone of a new industry and a window to a tremendous world of information for all segments of our society, from business executives to school children.

The rapid economic growth of other nations means a future with greatly expanded markets for U.S. goods and services. Our ability to move our ideas, our goods, and ourselves swiftly to any place on the planet, with the help of new technologies, enhances our ability to share in the growth of global wealth. On the other hand, the increasing availability of these same capabilities throughout the world also means greater competition; it means increasing pressures on our shared environment, health, and natural resources; and it means more diverse dangers to our security from threats such as terrorism and the spread of nuclear and other materials of mass destruction.

DRIVING ECONOMIC GROWTH AND IMPROVING QUALITY OF LIFE

Sustaining U.S. leadership in science and technology has been a cornerstone of President Clinton's economic and national security strategy. Investments in science and technology—both public and private—have driven economic growth and improvements in the quality of life in America for the last 200 years. They have generated new knowledge and new industries, created new jobs, ensured economic and national security, reduced pollution and increased energy efficiency, provided better and safer transportation, improved medical care, and increased living standards for the American people.

Investments in research and development are among the highest-payback investments a Nation can make. Over the past 50 years, for example, according to a study by the Council of Economic Advisers, technological innovation has been responsible as much as half of the nation's growth in productivity.[1]

We see the fruits of this innovation every day. Many of the products and services we have come to depend on for our way of life in America—lasers, computers, magnetic resonance imaging (MRI), teflon and other advanced materials and composites, communications satellites, jet aircraft, microwave ovens, solar-electric cells, modems, semiconductors, storm windows, human insulin, and others—are the product of U.S. science support and technology policies.

These innovations also mean jobs and economic prosperity for America. They've built some of these key industries:

Computers and Communications.—A creative partnership among the Federal agencies, industry, and academia that led to what has become the Internet, the backbone of a global electronic communication system. The Internet has driven the evolution of a $590 billion domestic telecommunications and information technology industry, which supports more than 3.6 million American jobs. In just the past 10 years, American employment in the computer and software industries has almost tripled.

Semiconductors.—During the 1980's, the U.S. companies lost their lead in semiconductor manufacturing, resulting by some estimates in $2 billion in lost earnings and 27,000 American jobs between 1980 and 1986. Today, American semiconductor manufacturers are back on top supplying 46 percent of the world's market for microchips while the Japanese supply 41 percent. Industry experts credit much of this resurgence to Sematech, a joint industry-government research consortium.

Biotechnology.—Discoveries in biology, food science, agriculture, genetics, and drugs upon which the private sector has been able to build and expand a world-class industry today support $7 billion in annual sales and more than 100,000 American jobs.

Aerospace.—Aerospace leads all other industry sectors in net exports. In 1997, the U.S. Aircraft industry shipped nearly $40 billion worth of commercial aircraft and employed more than half a million people.

Environmental Technologies.—Almost unheard of 10 years ago, more than 30,000 environmental technology and services businesses employ over 1 million Americans in high-growth, high-wage jobs. The environmental technology industry has annual

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[1] *Supporting Research and Development to Promote Economic Growth: The Federal Government's Role* The Council of Economic Advisers, October 1995.

sales approaching $134 billion, a number that is expected to grow to $500 billion by the year 2000.

Energy Efficiency.—Consumers and businesses spend some $500 billion per year on energy. If energy intensity had remained at the same level as in 1970, the country would be spending $150 to $200 billion more on energy each year. Many of the innovations that have boosted our energy efficiency are the product of partnerships between the Federal government and private industry. These partnership efforts produced energy-saving light bulbs and other lighting products, which alone generate $200 million in annual sales and have saved American consumers $400 million in energy costs. New designs and materials for windows have saved consumers another $760 million in energy costs while simultaneously providing more comfortable living.

Every one of these industries has been built on federal investments in R&D, and they are not isolated occurrences. From satellites, to software, to superconductivity the government has supported—and must continue to support—exploratory research, experimentation and innovation that would be difficult, if not impossible, for individual companies or even whole industries to afford.

Recent Advances in Science and Technology

Over the past year there have been numerous scientific and technological advances, reminding us of how much there is yet to know, and of the potential of S&T to further enrich and improve our lives. It is important to note that federal funding was a key to virtually all of the scientific breakthroughs of 1997, which included:

Synchrotron light sources.—DOE and NSF provide these advanced, powerful tools that are yielding striking research breakthroughs in increasingly diverse fields, including revealing the structure of materials and biological molecules.

Identifying and mapping genes.—Particularly the isolation of genes involved in the biological clocks of several organisms, from fruit flies to mammals; analysis of a snippet of DNA from a Neanderthal skeleton; and the explosion of microbial genetic data, including the analysis of whole genomes of several microbes, pathogens, and archeons. This work is funded by NIH, DOE, and NSF.

Understanding the workings of the central nervous system.—Work funded by NIH leading to significant developments related to Parkinson's disease, Alzheimer's disease, and regrowing severed spinal-cord nerves was recognized.

Identification of the most violent events in the universe.—Specifically, provocative clues to the nature of gamma-ray bursts and black holes, were obtained using observations in different regions of the spectrum by space and ground-based instruments operated by several countries. American participants are sponsored by NSF, NASA, and private organizations.

Liquid ocean beneath Europa's icy surface.—Detailed views by NASA's Galileo spacecraft strongly suggest the possibility of liquid water—key to the chance that living organisms might be found there.

Advances in the production, manipulation, understanding, and variety of nanometer-sized tubes of carbon.—The structural cousins of "buckeyballs" can behave like semiconductors or metals and are important steps toward future electronic devices and ultrastrong materials. NSF, DOE and DOD help fund this work.

Forecasting of El Niño.—Capitalizing on a decade of research and investment in modeling and monitoring technologies, we produced the first accurate forecast of the El Niño phenomena in the first accurate prediction of a large-scale onset climate event.

PRESIDENT CLINTON'S FISCAL YEAR 1999 R&D BUDGET

The President and the Vice President remain unwavering in their support for science and technology as crucial investments in our future. They maintain that such investments enable our nation to compete aggressively in the global marketplace, protect our environment and manage our natural resources in a sustainable manner, safeguard our national security from emerging threats, and spur the technological innovation that has contributed so much to our economic prosperity and quality of life. They have brought the budget to balance. They have increased the investment in science and technology. We all, but especially our children and our grandchildren, will reap the rewards.

S&T funding is a high-stakes, high-leverage investment in the Nation's continued stability and prosperity. The President's economic plan has worked. For the first time in 30 years a budget has been submitted to Congress that is in balance—it also contains the largest civilian R&D increase since President Carter's fiscal year 1981 budget. Additionally, the fiscal year 1999 budget is the sixth budget year in a row that the President has proposed increased investments in research and development—to a total of $78.2 billion.

The fiscal year 1999 budget continues the important R&D trends established by this Administration. It boosts funding for basic research to $17 billion, an increase of 8 percent ($1.2 billion) over fiscal year 1998. It provides $16.4 billion for applied research, an increase of 5 percent ($848 million) over fiscal year 1998. Under this budget civilian R&D will constitute 48 percent of total R&D; our emphasis increases on university-based research and on scientific user facilities that serve all of American science and technology. The impact of these substantial increases in R&D investments on America's research productivity is amplified by the Administration's concurrent focus on improving cost effectiveness of R&D by reducing administrative burdens on researchers in universities and Federal laboratories.

The centerpiece of the President's R&D proposal is the 21st Century Research Fund. The $31 billion Research Fund is deficit-neutral. It provides for increases in most of the Federal government's civilian research programs, which will grow at an overall rate of 8 percent in fiscal year 1999, and climb by 32 percent over the next five years.

Increases in R&D funding will enable our major S&T agencies to focus more intensely on the President's goals for science and technology: promote long-term economic growth that creates jobs; sustain a healthy, educated citizenry; harness information technology; improve environmental quality; enhance national security and global stability; and maintain world leadership in science, engineering, and mathematics. For example:

National Institutes of Health (NIH).—The budget reflects an unprecedented commitment to biomedical research with the largest increase ever for NIH, which is up 8 percent ($1.15 billion) to $14.8 billion. This funding will support expanded research on cancer, diabetes, brain disorders, drug demand reduction, genetic medicine, disease prevention strategies, and the development of an AIDS vaccine.

National Science Foundation (NSF).—NSF, which supports much of the research that trains the next generation of America's scientists and engineers, increases by 10 percent ($344 million) to $3.8 billion. The increase is the largest ever for NSF, and includes more than a 16 percent boost for computer science research.

Department of Energy (DOE).—The budget provides $7.2 billion in R&D funding for DOE—an 11 percent ($697 million) increase over fiscal year 1998. The budget includes resources for basic research, for constructing the Spallation Neutron Source, for the international partnership on the Large Hadron Collider, for DOE research on energy efficiency and renewable energy under the Climate Change Technology Initiative, and for maintaining the safety and reliability of our nuclear deterrent without nuclear testing.

Department of Defense (DOD).—Together, DOD's 6.1 and 6.2 accounts increase by 5 percent, to $4.3 billion; basic research alone increases by 6.6 percent. This increase continues the President's commitment to advancing our defense capabilities efficiently and cost-effectively.

National Aeronautics and Space Administration (NASA).—NASA will make a $2.1 billion investment in Space Science in fiscal year 1999, and add another $700 million for these activities over the next five years. These additional funds will be used to initiate a new mission to Jupiter's moon Europa and a series of probes to study the Sun.

Department of Agriculture (USDA).—The Agricultural Research Service receives a 3 percent increase to $770 million to intensify research on food safety and the plant genome. The National Research Initiative competitive grants program increases by 34 percent to $130 million.

Department of Commerce (DOC).—The budget provides $1.08 billion for R&D activities at DOC, including the Advanced Technology Program and construction of an Advanced Measurement Laboratory on the NIST campus in Gaithersburg, MD, and for oceanic and atmospheric research activities at the National Oceanic and Atmospheric Administration.

University Research.—R&D support to Universities increases by 6 percent, to $14.5 billion, recognizing the integration of research and education in the U.S. University system is its distinctive and vital feature. The Administration's increased emphasis on university-based research advances not only cutting edge research, but is also central to the education and training of the next generation of scientists and engineers. Highly trained scientists and engineers are prepared to contribute to public health and safety, national security, environmental quality, agricultural productivity, and international economic competitiveness.

Cross-Cutting Initiatives

Increases in the R&D budget also target national priorities requiring investments across agencies. For example:

Climate Change Technology Initiative.—Following the historic Kyoto agreement, the Administration is proposing a dramatic new program of tax cuts and R&D aimed at pursuing relevant science and generic technologies for cutting greenhouse gas emissions. The R&D portion—$2.7 billion over the next five years—covers the four major carbon-emitting sectors of the economy (buildings, industry, transportation, and electricity), plus carbon removal and sequestration, greater energy efficiency at Federal facilities, and cross-cutting analysis and research.

Education Research Initiative.—A new partnership between the Education Department and the National Science Foundation receives $75 million per year for research aimed at raising student achievement through learning technologies and at research on brain function and learning to develop innovative approaches to reading and mathematics instruction.

Large Scale Networking and High-End Computing and Computation.—The budget provides $850 million for what was formerly known as High Performance Computing and Communications, which has been restructured to focus on ambitious goals, milestones, and performance measures. This undertaking will help to support new efforts such as telemedicine, distance learning, and real-time collaboration. Included in this effort is $107 million for the Next Generation Internet Initiative, which will develop generic technologies needed for a research network that is 100 to 1,000 times faster than today's Internet.

Emerging Infectious Diseases.—The budget provides an increase of over 9 percent in R&D to aid in the fight against emerging infectious diseases, up from $339 million to $370 million (excluding the budget for HIV/AIDS).

U.S. Global Change Research Program.—The budget maintains strong support of global change research activities, which are furthering our understanding of climate change and its impacts, climate variability such as the El Niño phenomenon, Ozone depletion and other atmospheric chemistry, and changes in ecosystems and the Earth's land cover.

THE OSTP MISSION

In support of our Nation's science and technology priorities, OSTP has two primary responsibilities: advising the President on S&T; and providing leadership and coordination for our government's role in the national S&T enterprise.

In the 1950's, in response to Soviet advances, highlighted by the launch of Sputnik, President Eisenhower saw the need for expert S&T counsel, and he invited James Killian, then president of MIT, to Washington to serve as the head of the first President's Science Advisory Committee, an OSTP predecessor. Since then our Nation's Presidents have drawn on the expertise of our office for S&T policy advice, and I see this as a contribution that will continue to grow in value as the challenges we face become increasingly complex.

Within our agency, a small staff of professionals analyzes developments at the frontiers of scientific knowledge, and aids the President in shaping policy. OSTP also provides scientific and technical information and recommendations to the Vice President, the White House Offices, the Executive Branch Agencies, and to Congress.

A second responsibility of OSTP is to provide leadership and coordination across the Administration. OSTP plays this role for a range of Administration priorities, including national security and global stability, environment, science, and technology. The National Science and Technology Council (NSTC) has been an invaluable partner with OSTP in developing interagency evaluations and forging consensus on many crucial S&T issues.

OSTP Budget Request

I ask today for your continued support of OSTP's role in coordinating S&T policy for the Executive Branch and for our Nation at large. OSTP's budget request of $5,026,000 for fiscal year 1999, representing an increase of less than 2 percent, will allow OSTP to fulfill its responsibilities in a White House that emphasizes the importance of science and technology in national and international affairs.

After freezing our requests at the fiscal year 1996 enacted level for two consecutive years, this increase is essential to continue to provide quality support to the President and information to the Congress. Since personnel costs constitute the largest portion of OSTP's budget, our fiscal year 1999 budget request reflects our commitment to operate more efficiently and cost-effectively without compromising the essential element of a top caliber science and technology agency—high quality personnel.

National Science and Technology Council

To meet the Administration's priority S&T goals we must combine the efforts and the expertise of multiple agencies. OSTP personnel support the work of NSTC, a Cabinet-level Council that sponsors interagency initiatives to advance key S&T objectives.

Our distributed system of research funding also places a premium on coordination between complementary agency programs. The NSTC, now in its fifth year, is improving such coordination.

NSTC membership includes Cabinet Secretaries, heads of science and technology agencies, and key White House officials with significant S&T responsibilities. In the process of generating specific budgetary and policy recommendations, NSTC routinely reaches beyond the federal government to seek input from a wide spectrum of stakeholders in the public and private sectors.

An important objective of the NSTC is to guide individual agency budget priorities for R&D and to orient the S&T spending of each Federal mission agency toward achieving national goals. To meet this objective, the NSTC has established five goal-oriented committees, each of which is chaired jointly by a senior agency official and an OSTP Associate Director. These standing committees, along with ad hoc working groups within the NSTC, provide an effective forum to resolve cross-cutting issues such as the future role of the U.S. national laboratories, or providing a program guide to federally funded environment and natural resources (see Appendix A for a full list of NSTC generated reports from 1997.)

The President's Committee of Advisors on Science and Technology

As Assistant to the President for Science and Technology, the Director of OSTP co-chairs the President's Committee of Advisors on Science and Technology (PCAST) with John Young, former President and CEO of Hewlett-Packard Co. The PCAST, which consists of distinguished individuals from industry, education, and research institutions, and other non-governmental organizations, serves as the highest level private sector advisory group for the President and the NSTC. (see Appendix B for a full list of NSTC generated reports from 1997.) President Clinton established the President's Committee of Advisors on Science and Technology (PCAST) at the same time that he established the NSTC to advise the President on matters involving S&T and to assist the NSTC in securing private sector involvement in its activities.

Mr. Chairman and Members of the Committee, I hope that this brief overview has conveyed to you the extent of this Administration's commitment to advancing S&T in the national interest. We are delighted that the fiscal discipline exercised over the past five years has put in reach the opportunity to place more emphasis on investments that can assure future economic progress, environmental protection, and other national priorities which depend so heavily on strong and sustained R&D.

Regardless of party affiliation, in the end we can all agree that investments in S&T are investments in our Nation's future. I look forward to achieving bipartisan support for a national S&T strategy that will combine the resources of industry, academia, non-profit organizations, and all levels of government to advance knowledge, promote education, strengthen institutions, and develop human potential.

I ask not only for your support for OSTP's fiscal year 1999 budget request, but also want you to know how much I appreciate the long-standing bipartisan support of the committee for OSTP and for the S&T research enterprise. I would be happy to answer any questions that you have.

APPENDIX A

REPORTS

1. *National Environmental Monitoring and Research Workshop,* NSTC Committee on Environment and Natural Resources, February 1997.
2. *Program Guide to Federally Funded Environment and Natural Resources,* NSTC Committee on Environmental and Natural Resources, February 1997.
3. *Status of Federal Laboratory Reforms,* NSTC, March 1997.
4. *1996 Accomplishments of the National Science and Technology Council,* NSTC, March 1997.
5. *Integrating The Nation's Environmental Monitoring and Research Networks and Programs: A Proposed Framework,* Committee on Environment and Natural Resources, March 1997.
6. *National Environmental Technology Strategy: Status and Action,* Committee on Science (Committee on Technological Innovation), April 1997.

7. *Manufacturing Infrastructure: Enabling the Nation's Manufacturing Capacity,* Committee on Science (Committee on Technological Innovation), April 1997.

8. *Natural Disaster Reduction: A Plan for the Nation,* Committee on Environment and Natural Resources, April 1997.

9. *Computing, Information and Communications (CCIC) Brochure: Technologies for the 21st Century,* Committee on Technology (Committee on Communications Information and Computing), April 1997.

10. *Investing in Our Future: A National Research Initiative for America's Children for the 21st Century,* Committee on Science (Committee on Healthy, Safety and Food R&D), April 1997.

11. *Our Changing Planet: The fiscal year 1998 U.S. Global Change Research Program,* Committee on Environment and Natural Resources, June 1997.

12. *Interagency Assessment of Oxygenated Fuels,* Committee on Environment and Natural Resources, June 1997.

13. *Transportation Science and Technology Strategy,* Committee on Technology (Committee on Transportation R&D), September 1997.

14. *Technologies for the 21st Century, Supplement to the President's Budget (Fiscal Year 1998 Blue Book),* Committee of Technology (Committee on Computing, Information, and Communications), November 1997.

15. Annual Report to the President on Presidential Decision Directive (PDD)/NSTC–7, U.S. Policy on Emerging Infectious Diseases (EID), NSTC Committee on International Science, Engineering, and Technology, EID Task Force, December 1997.

Reports and Further Information may be obtained by calling: 202–456–6100 (phone) or 202–456–6026 (fax). Reports are Also Available on the NSTC Home Page via Link from the OSTP Home Page at: http://www.whitehouse.gov/WH/EOP/OSTP/html/OSTP—Home.html.

APPENDIX B

ACTIVITIES OF THE PRESIDENT'S COMMITTEE OF ADVISORS ON SCIENCE AND TECHNOLOGY (PCAST)

In 1997, PCAST provided the following reports:

R&D Priorities for Sustainable Development.—Released in January 1997, reports that the rapid growth in the world's population and its rates of consumption of natural resources has led to a deterioration of environmental conditions which threaten global stability and limit future human prospects. Five interrelated areas—climate change, biodiversity, energy, ecosystems, and food supplies are recommended as S&T investments that would have substantial returns for the health, economic prosperity, security, and well being of all Americans.

Report to the President on the Use of Technology to Strengthen K–12 Education in the United States.—Released in March 1997. The panel's findings and recommendations are: (1) focus on learning with technology, not about technology; (2) emphasize content and pedagogy, and not just hardware; (3) give special attention to professional development; (4) engage in realistic budgeting; (5) ensure equitable, universal access; and (6) initiate a major program of experimental research.

Letter Report on Cloning Technology.—Released April 11, 1997. The report endorsed the Administration's prohibition on Federal funding for cloning of human beings and the request that the private-sector adopt a self-imposed moratorium on cloning human beings. PCAST also supports the important and continuing contributions of biotechnology to agriculture and biomedical science and the request of the NBAC for advice on legal and ethical implications of extending the animal experiments to human studies. PCAST recommended that the National Academy of Sciences, Institutes of Medicine ensure that the public understands the complexities surrounding cloning.

Federal Energy Research and Development for the Challenges of the Twenty-First Century.—Released November 1997. The report recommended focusing the government's energy R&D on projects where high potential pay-offs for society as a whole justify bigger R&D investments than industry would be likely to make on the basis of expected private returns and where modest government investments can effectively complement, leverage, or catalyze work in the private sector.

Senator BOND. Thank you very much, Dr. Jones.

Let me ask Senator Burns if he would like to make an opening statement.

Senator BURNS. No, sir.

Senator BOND. All right.

Senator BURNS. Does that surprise you?

Senator BOND. It is going to be a good day.

Senator BURNS. Whatever they want, just give it to them. [Laughter.]

Senator BOND. I believe that was a cheap shot. [Laughter.]

Senator BURNS. We have got to get an airplane on one leg of the trip, however. [Laughter.]

Senator BOND. I think Senator Mikulski has gone to vote. And I will ask her to reconvene the hearing as soon as she returns, and begin the questioning. But I have a number of things I want to go through, so I will start at least the first round.

Senator BURNS. I will go vote, then.

Senator BOND. Well, maybe you all can have at it until I get back.

Senator BURNS. I will go save America. [Laughter.]

Senator BOND. Just vote. [Laughter.]

NSF BUDGET PRIORITIES

Dr. Lane, we appreciate the job that you have done at NSF and wish you the best. As I mentioned, we face a very tight budget allocation. And the funding sources that have been included in the budget are speculative at best. So we are faced, from a budget standpoint, with some major challenges.

Because of these fiscal concerns, what I would like to hear from you, and I would like to ask both you, Dr. Lane and Dr. Zare, to identify your key priorities for 1999. If we cannot provide the full request, what programmatic advice would you offer this subcommittee as we go about making funding allocations?

Dr. LANE. Mr. Chairman, we recognize that this is a very large request for NSF. And we believe that if the funds can be provided, it will be very well invested because of the way NSF does business. In particular, we will use these funds to increase our encouragement of science and engineering to work across disciplinary lines, in such areas as KDI and life and Earth's environment, and such projects as the genome initiative, and many others.

We also recognize, as has been the case for many years, that every year we leave on the table on the order of 7,500 grant applications, proposals, that could be funded in a minute, that are reviewed to be excellent or very good, that certainly meet our standards for funding. That amounts to about $900 million. So it means that there is a considerable cushion of excellence there that is unrealized. So with the additional money, we would be able to address that.

In addition, we would be able to make the whole process more efficient and more effective. We, at the present time, have an average grant size of about $83,000. It is really a bit small. And with the increased money, we would increase that on the order of 7 percent. We would also increase the duration of the grants. And that would lower the burden on the community for writing proposals and reviewing proposals. And, in addition, we would be able to fund more of these grants that otherwise are going to stay on the table.

So with the funds, we will do good things. Without the funds, where would we cut?

Senator BOND. That is the question. I understand the preamble. Now, for the question.

Dr. LANE. First of all, let me say, we put the budget request together, working with our directorates and our programs, in a bottom-up manner. You know, if you only got 90 percent of the funds you had last year, what would you do? That is how we built up the budget. So the priorities that are present and reflected in the budget work from that kind of a base.

And, therefore, if we were unable to receive the 10-percent increase, the relative priorities in the budget would remain. We would still expect to emphasize as best we could these interdisciplinary areas. We would not be able to increase the average grant size or the duration of the grants or make the system more efficient. But we would make every effort to meet the priorities that are in the same relative description that you find in the budget request.

Senator BOND. Dr. Zare?

Dr. ZARE. And that is very much the Board's opinion, in terms of putting together the budget and approving it.

Let us look at the situation. Thirty thousand proposals come in, approximately; 10,000 get funded—1 in 3. Easily 7,500 are left that could be funded. They meet our standards. If we had funds, we would do it.

We fund within a median of about $62,000 for a grant. Compare that, for example, to the NIH basic research grants, which average $240,000. Our average duration is not as long. We already are, in my opinion, underfunded. We are going to lose more if we are cut back.

The idea of keeping the NSF budget, as it has been constructed, is really very much a bottom-up approach, with top-down priorities imposed on what comes together. This is the process that goes on in this. Because you are asking how this happens. We would try to preserve what we could with what funds we are able to get.

MAJOR POLICY ISSUES FACING NSF

Senator BOND. Let me try to ask one last, quick question. Dr. Lane, as you are in transition—and I wish you luck—what major policy issues do you expect NSF to have to face over the next few years? What are the tough questions that you are going to be leaving behind?

Dr. LANE. Well, Mr. Chairman, I would like to say that everything is just fine, and all of the issues that faced me when I came in are now taken care of. But I would not be telling the truth if I said that.

I believe the first thing to say is that the Foundation is in excellent shape. It has a level of credibility that is very high. It is unique in its mission and its ability to perform that mission. So whatever challenges the Foundation faces with its new Director—and I am delighted that Rita Colwell has been nominated and I look forward to her confirmation—the Foundation will be able to handle them very well.

But in direct answer to your question, what I am most concerned about is that because the Foundation has such a wonderful record

of achievement, it is asked to do more and more. Increasingly, the Foundation is being asked to take on larger challenges, of course, with a strong scientific and engineering basis, but somewhat larger than its tradition has been. The most recent questions coming to us on the National Institute for the Environment are just an example of many.

So I think that it is very good that the Foundation is asked to do those things. The expectations are high. And the Foundation will undoubtedly do an excellent job. But the more of these other things it does, the less it is able to invest in what we are really calling the fabric, or the core, of the disciplines. And if those do not remain strong, then the Nation is not as able to use that knowledge for societal benefit.

So it is a balance issue. And I think that is the major programmatic challenge that the Foundation faces.

Senator BOND. Thank you all very much. I am going to have to adjourn the hearing temporarily. And whoever returns first, Senator Mikulski or Senator Burns or anybody else, will start up. I will be back as quickly as I can. We will temporarily stand in recess.

[A brief recess was taken.]

Senator MIKULSKI [presiding]. Senator Bond heard me this morning when I said I wanted to be the chairman. So here I am. [Laughter.]

NSF THEMES

Now, that is bipartisan cooperation. But the Senator, because of the vote, he needed to finish something on the floor. But we do not want to inhibit the flow of this hearing, so I am going to announce that the committee is reconvened and officially in session. And I will do my questions while we are waiting for Senator Bond's return.

One of the issues—well, I will wait for Senator Bond to come on this. I would like to go to my question on strategic initiatives. As you know, I was instrumental in directing NSF to develop those. You now have organized yourself along certain themes. And I understand from this, the budget has been set up to reflect those strategic themes. Can you describe how these will advance science and engineering across all fields of discipline and how this will then move in a strategic way?

Dr. LANE. Thank you, Madam Chair.

Senator MIKULSKI. Because you are essentially reorganizing the way you do your budget; am I correct?

Dr. LANE. That is a very good way to describe what these themes are—a way to coordinate activities all across the Foundation in areas that we feel are strategic in nature. They are larger than just the fundamental questions of science and engineering. So I talked about KDI in my testimony. And I think that is a particularly good example.

What it really does is to illustrate that if this Nation is going to remain on the leading edge in information technology and provide that technology for the benefit of all Americans, so that everybody can benefit in their homes and their schools and in their jobs, we have got a lot more to learn.

There are fundamental research questions that have to be answered. But they cannot be answered by just the computer scientists or just the chemists or just the engineers. It takes scientists and engineers from many different disciplines, willing to work together, to make this happen.

So that is what KDI is all about. It is an investment of an additional about $78 million in the fiscal year 1999 budget. And we spend probably just under a one-half-a-billion dollars across the whole agency in research and education activities that relate broadly to this area of KDI. So it is an integrating theme. It is not a budget category in itself. It is not a new division of the Foundation.

The way we make it happen is to pull together program officers or division directors from all over the Foundation, get them in a room, and get them to flesh out this multidisciplinary program. And then we go out to the community and we say, give us your best ideas and send us your proposals. Once we get those proposals in, we have them reviewed, and then we put this group together again and decide where the funds are going to be allocated to support the work.

Senator MIKULSKI. So is then, really, the coordination of every aspect related to math, science and engineering, which are, if you will, the traditional categories of the National Science Foundation and one of the primary purposes for which it was founded?

Dr. LANE. Yes; that is correct.

KNOWLEDGE AND DISTRIBUTED INTELLIGENCE

Senator MIKULSKI. Then, by your internal coordination, you are then maximizing where you think the breakthroughs will come in what you call the distributed intelligence. What is distributed intelligence? We think it is randomly distributed here. [Laughter.]

I am really interested in it, and in how you are going to do it.

Dr. ZARE. Well, I am delighted you were willing to grant that there is any intelligence at all. [Laughter.]

Dr. LANE. Senator, what knowledge and distributed intelligence means—why we use those words—is the fact that information is now spread out all over the world in all kinds of different forms. It is hard to access. What we need to be able to do is, each of us, get at that information to generate knowledge that we can then use. And so we do that by building smart systems, new software, new hardware, to get into databases and find what we want, to bring it forward so that we can make use of it.

So we use distributed intelligence—we use the word intelligence because it is not just raw data that we want out there, we have got a hard question and we want the answer to it. We want to be able to go to the network and say, Find me who makes a thingamajig that is about this big and does the following sorts of things. That is not very specific. But we ought to be able to ask that kind of question, go out all over the world, and find the information necessary to answer it. And we do not know how to do that right now.

So we use the word intelligence because it is more——

Senator MIKULSKI. You say you do not know how to do it, or you are in the process of learning how to do it?

Dr. LANE. We are in the process of learning how to do it. We have not given up. There are fundamental research questions that have to be addressed in order to enable us to develop the systems to allow us to do what I just described.

Senator MIKULSKI. Well, this is exactly the model—not exactly, but I mean this is very similar to what I was hoping would be accomplished. Because from what I—and we need to quickly garner this—is from the most fundamental research in physics, then into also I am sure fields like fiber optics and other transmissions of data, is one area which is enormously technical. But then the other is that if you can do high-speed data transmission, what does it mean?

Dr. LANE. That is right.

NSF RESEARCH RELATIONSHIP WITH PRIVATE SECTOR

Senator MIKULSKI. And then could you tell me, though, in this organizing of this then, what would be your relationship—you meaning the National Science Foundation and the research you fund—with the private sector?

Dr. LANE. We relate to the private sector in many ways. There are a number of centers that we support on university campuses that do research in this general area. And they have industrial partnerships. And so people from industry come and spend time in the laboratory, meet the students, bring their ideas from industry. So it is a real, genuine partnership where both sides benefit and both sides provide some of the support.

Another way we work with the private sector is to, wherever we can, call on the private sector to provide the infrastructure that we need to do the experiments on. So, for example, the Internet itself.

INFORMATION TECHNOLOGY AND PRIVATE SECTOR LINKAGES

Senator MIKULSKI. Well, let me raise this, because again I know the time is limited and this will be an ongoing conversation, particularly then as you move to OSTP. And I am going to stick strictly now to information technology. I think we are all clear, again, if we go back to those original competitive reports that sparked the thinking and the critical technologies of the 21st century, information technology was the fundamental one. Life science was certainly up there because of its consequences and breakthroughs.

Now, so much of the breakthroughs in information technology are coming from the private sector. And, therefore, I am wondering what are the appropriate linkages where one maximizes the other, and in a way that we also benefit from the breakthroughs that the private sector is doing, who, quite frankly, can put more into it than you can. I mean, $3 billion, whether we find it from other sources, as Senator Bond said, a 10-percent increase is really heartening. But $3 billion, in terms of the technology that will determine the—we could put $3 billion just in information technology; am I right?

Dr. LANE. Of course, you are right, Senator.

Senator MIKULSKI. I mean, I am maybe overstating it.

So you see how I am looking at leveraging—not leveraging—how the linkages need to be made.

Dr. LANE. Well, one example I think is the Internet itself. We estimate that, sort of through the recent history of the NSF, we probably invested as much as maybe a half-a-billion dollars in the whole general area of networking, the research activities and the infrastructure. The whole Federal Government may have invested as much as a few billion dollars. But that has blossomed quickly into a $200 billion industry, with the jobs and the profits and the benefits to education and to the economy and to health and to every other area that is provided by these breakthroughs.

So even though the amount of money at the front end was a relatively small part of the whole, and industry certainly added substantial investments on top of that, it was a critical piece. It was at the front end. It was high risk. It was at a time and a place when industry was not willing to make the investment.

We ought to be in early. We ought to be in at the front end. We ought to be highly leveraged. And we ought to be connected, as our strategic plan says—we ought to connect our discovery and our researchers with the people in the industry and in other walks of life who can take advantage of it.

Senator MIKULSKI. Well, we are looking forward on how you want to develop those plans. Because I understand this is taking the traditional role and putting it in a new framework both internally and externally.

Dr. Zare.

Dr. ZARE. I would like to add another aspect to KDI, and it is also relevant to what Senator Bond asked about how we support researchers in all types of universities, community colleges, elsewhere. KDI allows people to be connected together in a way that has not been possible before, so that they can participate in doing things.

Let us take an example. Namely, the plant genome project. And now I would like to ask, if I might, Mary Clutter to make sure of my facts.

Senator MIKULSKI. Well, before you talk to Mary Clutter, I have got a limited amount of time. And maybe Mary Clutter could answer the genome project with Senator Bond. I mean I appreciate that. Or could we be crisp? Because I get 10 minutes here.

Dr. ZARE. Thank you. I will just point out that this allows you to go from an egosystem of individual pillars of excellence to an ecosystem in which many types of scientists can participate in doing research. Like 400 scientists in the plant genome project scattered in more than a hundred institutions.

EDUCATING FOR THE FUTURE

Senator MIKULSKI. Well, that is fascinating. That is fascinating. And I know we want to hear more about it. But while we are looking at KDI, which does that, I want to go to Educating for the Future. Could you tell me in a more detailed way what your plans are in terms of—because as we do these enormous—the work force shortage now in technical fields is astounding. And we need to also be promoting at the earliest level, whether someone picks a field in math or science or not, essentially we all need to be scientifically literate.

Dr. LANE. Senator, actually we are all scientists. However, we are not as good scientists as we would like to be, as we need to be, for the increasingly technological jobs of the future. And that is where the challenge really is.

Educating for the Future, one could well ask, "Well, if it is not for the future, what is it?" So what do these words mean? The reason we write it that way is to say we are going to try to invest in high-risk activities that anticipate that people are going to need different job skills and different bases of knowledge in the future than they do right now. And we are going to try to work with the experts to anticipate that.

We have stressed for many years the integration of research and education, because we believe that the way young people and not so young people learn about anything is by experiencing. They need skills. You have got to know the times tables. There are fundamental basic things that you have to know.

But the way you really learn how to use your mathematics and your science is by doing. You ask questions. You do experiments. And you learn.

That is the basis of everything we are doing. Our systemic reform programs in K through 12 education are relatively new initiatives with community colleges, to help link those community colleges with high schools on the one end and 4-year schools on the other end. It is an immensely powerful effort that is so important to the work force.

And in many other ways, we are trying to focus on those activities that will assure that our young people are ready to compete in the global environment of the 21st century.

NSF INTERACTION WITH DEPARTMENT OF EDUCATION

Senator MIKULSKI. First of all, we are very heartened by this. And, again, I am going to ask you to look ahead to both not only what you are doing here at the Science Foundation but—and perhaps Dr. Jones could participate—I do believe that people learn by doing. And that is how I like best to learn, by being out in my State, going to visit projects, seeing hands-on things. And we have the great Federal laboratories in our State that enables me to do it.

But I am thinking about a 9-year-old, whether it is in Baltimore or Bethesda or in St. Louis. And I am wondering what is the coordination that is going on both with the Department of Education to do this and, No. 2, also because I know both sides of the aisles are tremendously interested in structured after-school activities as well as summer school activities, which in and of itself could provide opportunities for learning—the Girl Scout that is working on a Mission to Planet Earth Badge is learning about that. The Boy Scout working on blazing a new trail has to do math, computers, even maybe early elements of celestial navigation—not quite the way the computations they would be doing at the Naval Academy, but still learning how to look at the stars, see the stars, and know how to get back home.

And what I am looking at is not that the National Science Foundation be all and whatever, but how we can be supportive in a way that promotes lifetime learning—learning before and after school,

and recognizing that not all learning occurs in a classroom, or the integration of learning occurs most through play and creative activity.

Dr. LANE. I believe, Senator, as you do, that people learn by doing. And that if in their early years, particularly pre-K even through 12, they are taught science, mathematics and other things by inquiry, then they will learn how to learn. They will be much better as they get older in accessing the knowledge that they are going to need as they develop their own careers.

With regard to NSF and the Department of Education, let me just say very quickly, to be sure that you know about this program, we are working with the Department of Education primarily in two areas. First, to try to improve the delivery of middle school mathematics. This concern was stimulated by the TIMSS test, the results of which were quite disappointing. And the Department of Education and the NSF were asked by the President to work together to address this issue.

The effort will primarily address teacher education, but there will be other aspects to that effort as well.

We will do what we do well. The Department of Education will do what they do well. And we will work together to ensure each dollar goes further.

The second area in which we work together is basic research and large empirical-based studies on the effect of technology on learning in the classroom. There is no longer a question about whether we should have technology in the classroom. I mean it is there. It is coming. There is going to be more of it. The real question is, how do you ensure those investments are wisely made and the kids learn more by having the technology there than they would otherwise?

We are working with the Department of Education in that area, as well. And that was stimulated by PCAST reports, saying how important this was, and the President's directive.

Senator MIKULSKI. Well, Senator Bond has very gently reminded me my time is up.

And so I thank you and look forward to working with you.

PLANT GENOME INITIATIVE

Senator BOND [presiding]. Thank you, Senator Mikulski.

I was most interested in the exchange, but I hear we are going to have another vote at 10:55 a.m. So before we lose more time, I am not going to pass up the opportunity to talk about the plant genome initiative.

Dr. Lane, we provided you with $40 million last year for the plant genome initiative. Dr. Zare has mentioned it. And I gather that Dr. Clutter is here. And I cannot pass up this opportunity to ask you all for an assessment of how the program is progressing, how it is going to be managed, the plans for 1999, and what involvement you see in the other agencies that made up last year's OSTP interagency working group.

Dr. LANE. Mr. Chairman, the NSF spending plan for the Plant Genome Research Program follows the recommendations of the interagency working group on plant research. That group has been

working very hard. They did a tremendous job. The NSF is very pleased to be participating.

The funds will be invested using merit review. That is with peer evaluation. That is how we do our work at NSF. So specific projects will be funded based on the proposals we receive, and the scientific merit as determined by the reviewers.

We currently have 67 proposals in hand. They are under review. We expect to announce awards by September of this year. Of course, that is for fiscal year 1998.

Senator BOND. It takes that long to get all the proposals reviewed?

Dr. LANE. I am sorry, Senator?

Senator BOND. The review process is that long?

Dr. LANE. It takes about 9 months total in order to ensure that you get the information out and give the community time enough to understand what the program is about, write their proposals, send them in, have the proposals reviewed, make the decision, and get the money out the door.

It is quite a major process. We are trying to cut that time back in the way we do business by using electronic processing. But that is pretty much the situation right now.

Specifically, with the $40 million in fiscal year 1998, we will support accelerated sequencings of Arabidopsis, but also the development of the research infrastructure, new informatics tools, shared databases, genome mapping, virtual centers, multi-investigator, multi-institutional research. And, of course, we will broaden our activities to other plants—economically important plants.

In fiscal year 1999, we will have a new competition for the funds that we have requested, $40 million in 1999, plus the amount of money we have already been spending on genome research—about $20 million was our base prior to the additional $40 million that was provided in 1998. So we are spending a total of about $60 million a year in plant genome research.

FOCUS ON PLANT GENOME RESEARCH

Senator BOND. Now, are the grants you are envisioning for September going to be focusing on the mustard seed, on the Arabidopsis mustard seed?

Dr. LANE. The Arabidopsis mustard seed—well, not entirely. But they will enable us to accelerate that.

Senator BOND. Well, that one is good. Because we are going to have a few problems unless you branch out beyond that a little bit.

Dr. LANE. I think we were directed by the committee to accelerate the mustard seed and extend our research activities to other economically important plants. And we are certainly going to do that.

We do not know which genes and which plants will come out of the solicitation of proposals—but we are not going to spend all the money on Arabidopsis.

The importance of finishing the Arabidopsis, though I think we all understand is that there is a gene set there that is going to be very valuable in understanding rice, corn, wheat, and other grains. But the additional funds that were provided in fiscal year 1998, have enabled us to expand the program, to move more quickly on

some of these other cereal grains. And that certainly is our intention. That is certainly what we are going to do.

We are also working with USDA, the Department of Energy and NIH, because there are many commonalities between the human genome effort and the plant genome effort. We are well along on human genome, and we are very proud and very pleased to be moving aggressively on plant genome.

INTERACTION OF PLANT AND HUMAN GENOME RESEARCH

Senator BOND. I gather that the knowledge gained in the plant genome exploration would profit by the experience and the information that you have developed for distributing knowledge through the human genome process? This is where Washington University has, I think, played a significant role.

Dr. LANE. Absolutely. It goes both ways. And Dr. Zare might want to comment. We get information both ways.

Senator BOND. Dr. Zare, and maybe, if you would not mind, I would be delighted to hear what Dr. Clutter has to say, as well.

Dr. ZARE. Why don't we ask Dr. Clutter, please, to speak to this.

Senator BOND. Thank you, Dr. Clutter, for your leadership and your strong informed support of this effort.

Dr. CLUTTER. Thank you very much, Senator Bond.

I think that this program is giving the technology needed for agriculture of the 21st century a shot in the arm. The proposals that we have in-house represent the best science in this area that I have seen. It is also attracting many scientists who have not been part of the crop genome initiatives, but who are leading-edge scientists, to work on these problems. So I am very pleased with what we see.

The proposals are in review right now. And we will not know the awardees until sometime this summer. But we will also need to do some site visits. So that is why it takes a little bit longer. There are more than 400 scientists involved in these collaboratories, as we call them, virtual centers. So the job of reviewing these proposals is a little bit more difficult than an ordinary individual investigator proposal.

Senator BOND. I can assure you, if you are making site visits, that we can arrange to have the welcome mat out for you. If you let people know in the areas you are going to visit, we will make sure that they are properly responsive. I am sure they will be.

Dr. CLUTTER. Thank you very much.

Senator BOND. Can you give us an idea of the kinds of proposals being submitted? I mean, are these broad-based scientific inquiries? For example, from the 60-some-odd applications that you have, how do the proposals break down? What percentage are in specific crops or other aspects of the project?

Dr. CLUTTER. I have not read these proposals myself. But I do know that probably every economically significant crop you can think of is mentioned in one or more of these proposals. I think you will be very pleased with the outcome.

EFFECT OF PLANT GENOME INITIATIVE ON THE ENVIRONMENT

Senator BOND. One of the things that is of great interest to me is we have focused a lot on the economic benefits of the plant ge-

nome initiative, but I believe that there is a potential for other benefits, which may be extremely important. I know at the University of Missouri they have recently tested a hybrid corn which, when fed to swine, decreased phosphorous in manure by 37 percent. And given the environmental problems that we have had with livestock waste, it seems to me that there are potentials in plant-based technologies to deal with this problem.

Can you give us some ideas, any of you, on the possible benefits for the environment from this work? Do you think the project might lead us to tools that would improve the digestibility of phosphorous in animal feed or improve nitrogen use efficiency?

Dr. ZARE. Well, in the long run, it is going to transform truly the foods we eat. We will be able to design more nutritious food for ourselves by what we are doing, and be able to grow better crops that are more resistant to various environmental factors, and that are much more friendly toward the environment, in terms of growing them. That is very much how I see the future.

Dr. LANE. And the phosphorous example I think is a very good example. I found that a very exciting result. And the potential benefit is just so clear, that by successfully altering the feed, you do not then have to remove the phosphorous from the environment. It could save money, and perhaps in other ways would be better for the animals. I think it is a tremendous example. And it is real, as opposed to my suggestion of chocolate corn that the chairman did not think was such a great idea earlier.

Maybe Mary could add a substantive comment. [Laughter.]

Senator BOND. Dr. Clutter?

Dr. CLUTTER. Well, of course, we have already seen from the Arabidopsis project, that genes are being isolated and identified and characterized, which really will make growing crops more environmentally friendly. So they will be resistant to various stresses. However, while we expect multiple benefits, we do not know exactly what is going to come out of this.

Senator BOND. That is the whole purpose, yes.

Dr. CLUTTER. That is the whole purpose.

I think that we are going to see many benefits.

Senator BOND. All right, great.

Dr. LANE. The other thing that will happen, Mr. Chairman, is the feedback effect I was alluding to. Because you have this very exciting scientific area of the plant genome that needs KDI kind of research to be done, it is going to stimulate research activities in computer science and engineering, and that is going to broadly impact it.

Senator BOND. So you envision a computer hookup with all of the research going on?

Dr. LANE. There is no question.

COORDINATION OF PLANT GENOME INITIATIVE

Senator BOND. As some of you may recall, one of the things that I asked about previously was to what extent there was coordination. Because we know that there are some chemical companies, in cooperation with seed companies, who were beginning to do some work totally in the private sector. You then had the Arabidopsis project. Are you comfortable—and maybe Dr. Jones would want to

weigh in—that there is a coordination of efforts, so that we are not going to be reinventing the wheel, but we will be able to take advantage of the developing and coordinating the knowledge in this area?

Dr. JONES. Mr. Chairman, I think the coordination is one of the key efforts that this initiative has to focus on. And I think the interagency process that has started will continue to have to play a role. Because this is not limited to the key agencies that were mentioned, but also the other agencies that are out there dealing with sophisticated issues on informatics.

And I think we have to look across the agencies, not just for the plant genome initiative, but also for information technology initiatives, and make sure that those are connected. Coordination is as important a product as the new plants, if you will, because the coordination will take the informatics technology to the next generation and to the next level of being able to connect and give us more information.

I think this coming together of information technology and biological science is going to be something that is very important in terms of informing both systems—both the information technology and the biology.

EXPANDING OPPORTUNITIES FOR PARTICIPATION IN NSF RESEARCH

Senator BOND. I have quite a few more questions, but the time is running out. I am really interested in pursuing, and I will for the record pursue, the questions about how we assure that there are opportunities to expand the Federal investment in science research and investigation beyond the top 50 schools. And I know, Dr. Zare, you represent one. And I am sure I know others who are in that top group.

But Senator Burns and I and others are looking for—is there anything, briefly, that you would say that we need to do to make more schools more competitive? Are there any kind of reforms that could help assure that we elicit the best research and investigation from schools not traditionally in the top 50?

Dr. ZARE. Again, I would urge the support of the KDI program and the efforts toward developing an ecosystem, whereby we have regional centers of strength and partners in this, so that many more people can participate in the integration of research and education.

Dr. LANE. I second that, and would appreciate the committee's support of our efforts with EPSCoR to broaden the impact of that program and to try to get a more integrated approach to the research going on in all of our States around the country. EPSCoR is a very important program. But what we are trying to do is ensure that the researchers in the EPSCoR States are competitive in the standard programs.

And we are doing that by working across the whole Foundation, with shared funding between the EPSCoR program and the directorates, to try to ensure people do not fall through the cracks. And so we appreciate your support of those efforts.

Dr. ZARE. If I might add one more statement on this. The National Science Board made a study recently and issued a report, which I would be glad to enter into the record, about the stresses

on graduate education in universities and how we have a need—one of our recommendations—for more partnerships.

Senator BOND. I would appreciate seeing that. Good.

ADDITIONAL COMMITTEE QUESTIONS

Well, again, I will submit lots of questions for the record. I think several others will. We would welcome your further answers.

[The following questions were not asked at the hearing, but were submitted to the Office for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR BOND

NATIONAL SCIENCE BOARD'S CALL FOR SETTING RESEARCH PRIORITIES

Question. A recent paper from the National Science Board on government funding for scientific research calls for more comprehensive coordination of federally funded research. Dr. Zare, as you know, we have the White House Science Advisor's office and OMB—two entities that are supposed to address the coordination of federal R&D among and between agencies. Should the "take home message" of your report be that the OSTP–OMB process is not working? What specific improvements in the process are you calling for?

Answer. The Board's Working Paper recognizes that a degree of coordination of Federal research spending exists across disciplines and that during the last decade the Executive branch has taken steps to improve coordination of research across agencies in key areas. The Office of Management and Budget in consultation with the Office of Science and Technology Policy provides annual budget guidance to all agencies participating in support of priority research areas in preparing the Federal budget for submission to Congress. Too, agency budget submissions must be developed in the context of the Government Performance and Results Act, which requires that agency supported research activities have measurable outcomes toward achieving agency missions. We note in particular that the committees of the National Science and Technology Council (NSTC) provide coordination in areas of special national interest, such as global change, the development of less polluting transportation, energy, specific health areas, childhood development, and the future of the U.S. program in the Antarctic. These efforts benefit from special Administration studies, including reports of the President's Committee of Advisors on Science and Technology (PCAST) and the NSTC.

But, beyond those special areas, coordination tends to depend on individual agency-to-agency agreements, informal cooperation across agencies at the program level, and the memories of Congressional committees. The Board has concluded that there remains a need to examine and coordinate the science and engineering research budget as a whole. The Board asserts that currently important decisions about the allocation of limited resources sometimes happen by default, without explicit weighing of alternatives and that the process can and should be improved. The Board states that "[t]here should be an overall strategy for research, with areas of increased and areas of decreased emphasis. The budget as a whole should be adequate both to serve national priorities and to foster a world-class scientific and technical enterprise. To this end, Congress and the Administration need to establish a process that examines the complete Federal research budget before the total Federal budget is disaggregated" for consideration in Congressional committees. "Departments and agencies should make decisions based on clearly articulated criteria that are congruent with the overall strategy."

The absence of a comprehensive strategy for support of science at the Federal level may inadvertently result in gaps in support to important scientific areas, with the potential for discouraging students or scientists from entering or remaining in unsupported fields of research; contain undesirable duplication; or fail to address adequately national priorities for research. The Board concludes that the appropriate next step is to initiate a study of guidelines for priority setting across fields of science that go beyond those proposed in the COSEPUP report, "Science, Technology and the Federal Government/National Goals for a New Era." The purpose of this task would be not to set priorities, but rather to undertake a study of how they might best be set. The study should involve the opinions of a diverse group including, among others, active researchers with breadth of vision.

INTERNATIONAL COMPETITORS IN R&D

Question. (Dr. Lane, Dr. Zare) A recent NSF report that came out in January (entitled "The Science and Technology Resources of Japan") states that Japan leads the U.S. in the percent of its Gross Domestic Product (G.P.) invested by government and industry in non-defense research and development (R&D). It also says that Japan outpaces the U.S. in the percent of its G.P. invested by government in civilian R&D. The report describes Japan's growing awareness that it needs more advanced industries based on fundamental science. This awareness culminated in a 1995 Science and Technology Basic Law, and the decision to double the Japanese government R&D budget by the year 2000 or shortly thereafter. Is that still their objective considering their own economic woes and does your recent report on Japan's prowess with respect to science and technology give you cause for concern?

How does Japan's method of investment in R&D differ from U.S. practice and what lessons can we take away from Japan's approach?

Answer. The Japanese Government is continuing to increase R&D funding despite its large national deficit and prolonged economic recession. In its 1995 Basic Plan for S&T, the Government called for a 5-year (1996–2000) investment of 17 trillion yen. Such investment would require an average annual growth rate in R&D funding of around 10 percent, and would result in almost doubling the Government's 1990 budget of $11 billion (constant 1992 dollars). Japan may reach their investment goal by the year 2000 or shortly thereafter.

Besides increased government R&D funding, Japan's Basic Plan for S&T called for structural changes in S&T. Japan is continuing to implement many structural changes in R&D investments to increase the national capacity for breakthrough research: expansion of basic science and competitive research at universities and national laboratories, expansion of graduate education and postdoctoral research positions, and more flexibility in funding and hiring of S&T personnel.

The response to the economic recession is fostering government investment in R&D, but will likely slow industrial R&D investments. The recent Japanese government's economic stimulus package provides a large supplemental budget for R&D in 1998. This additional money will likely go into S&T infrastructure (upgrading university facilities and equipment) and exchanges (hosting researchers, scholars and foreign students). However, industry funding and performance of R&D in industrial laboratories may contract during Japan's recession. While Japanese S&T personnel continued to expand in the first half of the 1990's despite an economic slowdown, the continuing recession may constrain industrial employment of new university Ph.D.'s.

Japan is moving away from its former model of adaptive research and quality engineering of Western technology. What served Japan well from the 1950's to the 1980's might not serve in future industries that are very science dependent. For the past 15 years, Japan has been moving towards an R&D system that more closely resembles that of the United States.

What might be instructive for the United States, however, is Japan's regional approach to development assistance and S&T education. Through direct foreign investment, technology transfer and the education of significant numbers of foreign students from neighboring countries in engineering, health, and agriculture, Japan is one of the Asian region's growth engines. The education and training is provided both within developing countries and within Japanese universities. S&T education is provided within Japan by funding scholarships for students from poorer surrounding countries to study S&E fields. The Japanese Office of Development Assistance (ODA) continues its strong outreach program for more integration with China and South Korea, and for technical assistance to developing countries in the Asian region. This three pronged approach (direct foreign investment, technical assistance, and science and engineering education) has likely contributed to Japan's competitiveness in the Asian region, and to Japan's role in fostering regional economic development.

The United States could learn from Japan's approach and investigate how efforts such as S&T development assistance and S&E educational outreach could further the economic development of the Americas.

CARNEGIE FOUNDATION REPORT ON UNDERGRADUATES

Question. New Study Says Higher Ed Institutions Short Change Undergraduates: Dr. Lane, within the last two weeks, the Carnegie Foundation released a new report that added to the criticism of our major universities. As I understand it, the report said that undergraduate students get the short end of the stick in terms of instruction at the major institutions of higher education. What do you think of that conclusion and what is NSF doing to influence colleges and universities to elevate the im-

portance of teaching and instruction to the same level of prestige that research enjoys in the mind of university administrators.

Answer. The undergraduate education experience—at large, research-oriented or comprehensive universities or at four-year, liberal arts institutions and two-year institutions—is critical to the intellectual and career development of students. The report by the Boyer Commission on Educating Undergraduates in the Research University, created under the auspices of the Carnegie Foundation for the Advancement of Teaching, discusses the undergraduate education experience at a total of 125 "Research I" and "Research II" universities in the United States where approximately 15 percent of the nation's undergraduate students are enrolled. The Report makes numerous recommendations for change in undergraduate education, especially at those institutions.

The report also includes a number of "Signs of Change"—vignettes—that describe existing outstanding programs at these same institutions that have been implemented explicitly to enhance the education of undergraduates. These programs illustrate some of the ways to meet the recommendations in the Carnegie Report, and many of these programs have received support from the NSF.

Having made similar observations to many of those highlighted in the Carnegie Report, NSF had begun taking action prior to the issuance of the report. New merit review criteria which went into effect in October 1997 for all proposals submitted to the NSF, require reviewers, for all programs across NSF, to consider how effectively investigators link their research and education responsibilities. The informal response from the research and education community has been quite positive, and the new criteria expand our abilities to fund exemplary projects that can improve undergraduate classroom education.

NSF sponsors a variety of efforts that address many of the suggestions in the Report. Our programmatic focus includes students enrolled at research universities and those enrolled in comprehensive universities, baccalaureate (four-year) institutions, and the community colleges (two-year institutions). A number of NSF programs are designed to support traditional, basic research with a required component being the inclusion of opportunities explicitly designed for the education of undergraduate students. Such programs include the Engineering Research Centers, Science and Technology Centers, Materials Research Science and Engineering Centers, Research Experiences for Undergraduates, and Research in Undergraduate Institutions. In addition, NSF's Faculty Early Career Development program is aimed at young faculty who effectively integrate research and education and NSF's Recognition Awards for the Integration of Research and Education acknowledge exemplary institutional efforts at combining research activities with high-quality education efforts.

Other programs of the NSF focus on curricular reform at the undergraduate level and make use of the research expertise of faculty from research institutions to inform the effort. Some of these programs also include opportunities for research experiences for undergraduate students as an integral part of the projects. These programs include Course, Curriculum, and Laboratory Improvement, Alliances for Minority Participation, NSF Collaboratives for Excellence in Teacher Preparation, Combined Research-Curriculum Development, and the Engineering Education Coalitions.

NEXT GENERATION INTERNET AND INTERNET FUND

Question. Dr. Lane, last week the Congress passed, and the President signed into law, a provision that should provide the Foundation with a total of about $60 million in fiscal year 1998 to support research and other activities related to the Next Generation Internet and other related networking activities. Tell us little about how you will go about using these resources.

Answer. There are three goals in the NGI: (1) Conduct research in next generation networking technologies; (2) Establish and operate networking testbeds hundreds to thousands of times faster than today's Internet and capable of providing advanced networking services; and (3) Develop revolutionary scientific and engineering applications requiring high performance networking. If and when the $60 million becomes available, following court actions now in progress, they will be utilized in a balanced fashion across all three NGI goals and related information technology activities.

NSF FUNDING TO A FEW UNIVERSITIES

Question. Dr. Lane, I raised in my opening statement a concern about how NSF funds are distributed to universities and colleges, as well as to various areas of the country. I understand that a recent NSF survey of federal R&D expenditures based

on data collected through fiscal year 1996 indicated that the top 50 recipients of university-based research received about 60 percent of all available federal research dollars (some $8.3 billion out of $13.8 billion).

In addition, a number of these "top 50" schools received an additional $4.3 billion because they manage large federally funded research and development centers for various federal agencies. For example, MIT receives $271 million annually in academic R&D expenditures, plus an additional $334 million of its DOD-supported Lincoln Lab. Likewise, Stanford receives $282 million in academic R&D dollars, plus an additional $120 million through its DOE-supported Stanford Linear Accelerator Facility.

While the Experimental Program to Stimulate Competitive Research (EPSCoR) is a attempt to simulate R&D competitiveness in universities in states which receive relatively little federal R&D funds, this program has relatively little funding with the NSF budget request totaling some $53 million for fiscal year 1999.

Is there a way to make schools more competitive? Is the grant system flawed in some way and in need of reform. For example, are the peer review panels structured in a way which weighs the consideration of grants toward these so-called "top 50" schools?

Answer. NSF has several programs in addition to the Experimental Program to Stimulate Competitive Research (EPSCoR) that are designed to stimulate systemic and sustainable improvements in universities' capabilities to compete successfully for Federal R&D funds. These programs play a key role in promoting greater diversification of the infrastructure for basic research in the United States. Other programs include:

—Support for Historically Black Colleges and Universities (HBCU's);

—Collaboratives to Integrate Research and Education (CIRE)-collaborations between NSF-supported research centers and facilities and minority serving institutions;

—Centers of Research Excellence in Science and Technology (CREST)-enhancement of research and education activities at the most productive minority institutions; and

—Research in Undergraduate Institutions (RUI)-research support for faculty in predominantly undergraduate institutions.

Depending on appropriations, fiscal year 1999 funding for these five programs will total more than $100 million.

NSF facilitates the transition of scientists and engineers into regular Foundation programs in several ways. The Foundation encourages researchers to participate in other NSF programs such as Small Business Innovation Research and Industry/University Cooperative Research Centers. In addition, NSF research program officers are briefed on research efforts from these programs and frequently serve on site visit teams. This helps to build relationships between researchers and program officers throughout the Foundation.

NSF also encourages states and institutions to participate in other agencies' programs. For example, NSF works to maintain coordination and communication with other agencies' EPSCoR and EPSCoR-like programs through the EPCSoR Interagency Coordinating Committee (EICC).

NSF strives to involve researchers from a broad range of institutions in the merit review process. For example, in the recent STC competition, researchers from twelve EPSCoR states served on the preproposal review panel. This experience helps researchers to understand the merit review process and the requirements of successful proposals.

NSF's policy on the selection of peer reviewers addresses the importance of wide representation—including characteristics such as geography, type of institution, and underrepresented groups. A 1994 study by the GAO found that, overall, the peer review process used by several federal agencies appeared to be working reasonably well, and that the intrinsic qualities of a proposal were important factors in reviewers' scoring. Regarding institutional factors, GAO found that reviewers were not more likely to come from elite institutions than were applicants, and there were few differences in region of origin.

NSF believes the merit review system maintains high standards of excellence and accountability in the proposal decision process, and thus pays close attention to the workings of the system. For example, The National Science Board and NSF staff recently completed an examination of the merit review criteria which had been in use since 1981. This examination, which involved the broad scientific community through the opportunity for public comment, led to the adoption of two redefined criteria in fiscal year 1998: the intellectual merit of the proposed activity, and the broader impact of the proposed activity. The second criterion is expected to address

a range of issues, including how well the proposed activity broadens the participation of underrepresented groups (e.g. gender, ethnicity, geographic, etc.).

R&D FUNDING TRENDS

Question. According to the Association for the Advancement of Science, since 1976, in constant dollars, funding for the health sciences has just about doubled, while at the same time funding for just about every other field of science—engineering, physical, social, environmental, etc.—has remained virtually level. Dr. Lane, Dr. Zare, and Dr. Jones, what do you think about these trends? Is this in the best interest of the nation?

Answer. The Board agrees that the Federal government should continue to play a major role in supporting research in the health sciences as a national priority, as it has over the last half century. In addition the Board, like the NIH Director, Harold Varmus, and other members of the scientific and engineering community, is concerned that support for research be balanced across the portfolio. Effective allocation of Federal funds to sustain and enhance the Nation's science and technology enterprise requires a comprehensive assessment of which fields and which investment strategies hold the greatest promise for new knowledge to achieve national objectives. These objectives include, in addition to better health, greater equity and social justice, higher standards of living, a sustainable environment, a secure national defense, and growth in our understanding of nature. It is necessary to recognize that areas of scientific knowledge do not advance in isolation. New knowledge or cutting-edge instrumentation from one field of science frequently catalyzes breakthroughs in other areas of science and technology, including among others, health applications.

CONCERNS OF THE NATIONAL SCIENCE BOARD

Question. In a few weeks, we will see the Board's latest report on science and engineering indicators. Dr. Zare, perhaps you can give the subcommittee a preview of what this new report will tell us with respect to the health and future of our Nation's research and education enterprise?

Answer. An important feature of the Science and Engineering Indicators—1998 report is an increased emphasis on international comparisons and on indicators of Science and Technology globalization. We are living in an increasingly global economy. Science and engineering activities have always had a global dimension, but this is now intensifying.

Science and Engineering Indicators.—1998 also contains a new chapter entitled, "Economic and Social Significance of Information Technologies." There is an increasing need to understand better the contributions and impacts of science and technology. Measurement of the economic and social impact of science and technology is a special challenge—particularly for rapidly developing technologies, such as information technologies (IT). The Board believes that this new chapter, which addresses both positive and negative aspects of IT, makes a significant contribution to synthesizing and crystallizing what is currently known about selected aspects of this important topic.

The report "Overview" highlights five cross-cutting themes that are important trends. These are:

Increasing globalization of science, technology and the economy.—Other countries besides the United States are investing in financial and human resources for science and technology, recognizing that such investments are essential underpinnings for social and economic well being in the global economy. Individual scientists and engineers, industrial firms, and academic institutions are taking advantage of the increasingly international character of science and technology, as witnessed by enhanced international mobility of the science and technology workforce, international co-authorship of scientific publications, the development of international industrial alliances, and the global flow of technological know-how.

Greater emphasis on science and engineering education and training.—Many countries, including the United States, recognize the importance of providing an excellent education to their population in a global, knowledge-based economy. At the professional level, universities in the United States and elsewhere face the challenge of introducing greater flexibility and breadth into their curricula in order to improve the employment prospects of their students at both the undergraduate and graduate levels. More broadly, the nation as a whole faces the challenge of assuring that its diverse workforce will possess sufficient technological literacy, and its citizenry sufficient knowledge and understanding of science and technology and their socio-economic impacts, to address the requirements of the new century.

Structural and priority changes in the science and engineering enterprise.—The decreasing Federal share of financial support for the Nation's R&D effort, evident since the beginning of the decade, persists. The Federal role remains essential, however, in the support of basic research in the academic sector and in the integrally linked education of the nation's science and engineering workforce. Even as the role of industry in supporting R&D has become more prominent, the structure of research in industry itself is changing, as is evident from the increasing prominence of R&D in the service industries.

Industrial R&D support remains most heavily concentrated on applied research and development, as opposed to basic research.—That private industry recognizes the importance of U.S. colleges and universities to the national enterprise is evident from the growing linkages between the industrial and academic research sectors, a trend also explored in our occasional paper, Industry Trends in Research Support and Links to Public Research (NSB–98–99), accompanying Indicators.

Increasing impact of science and technology on our daily lives.—The impact of science and technology on our daily lives is profound, however difficult to track or quantify. The changes brought about in the workplace, schools and homes by information technologies may be the most obvious case in point. As one measure of this rising impact, Indicators reports the results of a survey of the public's understanding and attitudes toward science and technology.

SETTING PRIORITIES FOR MAJOR THEMES

Question. Dr. Lane, can you describe to me how NSF determined that Knowledge and Distributed Intelligence (KDI) and Life and Earth's Environment (LEE) were the agency's top research theme areas (as opposed to crosscutting themes in materials, biotechnology, environmental engineering, or math and science education)? Can you tell us a little more about what makes these two themes distinct from traditional disciplinary support NSF has historically emphasized?

Answer. In the early Spring 1996, the Director, Deputy Director and NSF senior managers met for two days. The purpose of these intense sessions was to identify and establish the research priorities for the fiscal year 1998 budget request, as well as future budget requests. The focus of the discussion was on which areas of science and engineering were truly on the verge of major discoveries. During these two days each Assistant Director took turns presenting the emerging opportunities within their disciplines that warranted greater emphasis in NSF's funding strategy. From these discussions emerged areas such as "knowledge networks," "human-centered computer systems," "intelligent manufacturing," complex biological and human systems, complex modeling, data mining and learning and cognition, which eventually came under the umbrella of KDI. LEE emerged from a larger discussion on the environment and the scientific quest for understanding the interaction of physical, biological and human activities. Both KDI and LEE build on recent research emphases, such as Learning and Intelligent Systems and LExEN, as well as research that NSF has been supporting for many years. We do not think of KDI and LEE as opposed to work in particular disciplines or specific cross-disciplinary areas, such as materials or biotechnology, but as a broader framework that might variously draw upon these more specific areas for relevant research and education contributions, or broadly raise capabilities within them for pursuit of research and education.

What makes the KDI and LEE themes distinct is that is that they:

—Link research and education that is intellectually important with issues that are societally important.

—Provide frameworks and emphasis areas to which researchers and educators in many disciplines can respond with creative ideas leading to discovery.

—Focus on research at the interfaces of extant disciplines where new knowledge is increasingly created.

—Organize research and education interests in order to improve communication with the public.

Question. The so-called KDI theme is proposed to increase by $78 million. However, nowhere in the budget can I find a baseline estimate for this activity. Is this a $78 million increase on top of the approximately $50 million requested in last year's budget (p.4 of the fiscal year 1998 Justifications of Estimates) or is this a $78 million increase on top of some core programs that total $200–$400 million? It is hard to know what to think of your proposed increase without knowing its context. I am not asking you to turn the KDI theme into some line item in the budget, but it would very helpful to the committee if we had some way to assess what this increase means. Can you help us out here?

Answer. The fiscal year 1998 KDI base of over $400 million supports a broad range of KDI-related activities, including the Digital Libraries Initiative, the Bio-

logical Databases Program, Partnerships for Enhancing Expertise in Taxonomy (PEET), a collaborative for upper atmospheric research, several centers for Collaborative Research in Learning Technologies (CRLT), and a large number of KDI-related research projects submitted to NSF disciplinary programs.

The $50 million increase in fiscal year 1998 will fund three KDI focal areas: Knowledge Networking (KN), Learning and Intelligent Systems (LIS), and New Computational Challenges (NCC). The KDI proposal solicitation elicited nearly 700 multi-disciplinary proposals that are currently undergoing review. NSF expects to fund approximately 60–75 of these proposals.

The $78 million increase proposed for fiscal year 1999 will support new investments in the KN, LIS, and NCC focal areas. In the Knowledge Networking area, digital libraries, high-speed networks, interactive data sets for real-time simulations, collaboratories, and information representations are topics of emphasis. Research on legal, ethical, and social implications of the information revolution also will be given high priority. For Learning and Intelligent Systems, NSF will support basic research on learning in natural and artificial systems, as well as research on learning technologies and the use of such technologies by teachers and students. In the New Computational Challenges focal area, priority will be placed on development of computational methods for collecting, transmitting, and analyzing extremely large data sets in real time; visualization of results; and simulating complex systems. The enhanced KDI investment will be administered through a second focused KDI proposal competition, other KDI-related initiatives such as Digital Libraries and Next Generation Internet, and support of KDI-related research projects submitted to disciplinary programs.

KNOWLEDGE AND DISTRIBUTED INTELLIGENCE

Question. Dr. Lane, again this year we see the NSF budget emphasizes the theme of knowledge and distributed intelligence. Last year we had some trouble in getting you to explain to us what this initiative is all about. So we asked you for some milestones as to what we could expect as this program moves forward. And frankly, what we got were not milestones but examples of projects being supported. So let's try this again, what do you see as the major objectives of the KDI initiative in fiscal year 1999 and how does it tie back to your core programs in research and education? Perhaps you can look ahead 10 years and speculate how the conduct of science—and even how society—might be different as a result of your emphasis on knowledge and distributed intelligence.

Answer. Looking ahead 10 years, NSF expects the investment in KDI to have a substantial impact on how we learn, work, and create, in science and in society. KDI research will generate widely-applicable tools and technologies for increasing the efficiency, effectiveness, and creativity of scientific research (e.g., digital libraries and scientific databases, high-speed networks for rapid transmission of massive data sets, web-based 'collaboratories' allowing distributed research teams to share instrumentation, data, and analysis methods, and advanced computational methods for simulating complex natural systems). In addition, the KDI initiative will stimulate formation of the multi-disciplinary research teams and techniques needed to address many of the frontier problems in science. By emphasizing the training of graduate and post-doctoral students in KDI-supported projects, KDI will help create a new generation of multi-disciplinary researchers with the knowledge and skills required to realize fully the potential of the new methods and technologies. The overall outcome should be increased scientific productivity, and reduced compartmentalization of science.

Many of the tools and techniques developed through KDI research (e.g., data mining and visualization techniques, computational simulation methods, digital libraries, high-speed networks) will have broad application in education, business, and industry. Also, much of the research KDI is supporting, and will support in the future, speaks directly to societal needs, issues, and opportunities related to the information revolution. For example, among the topics currently emphasized in the KDI initiative are:

—Enhancing the accessibility and utility of on-line information (e.g., data-mining techniques, access for persons with disabilities).

—Ethical, social, political, legal and economic implications of the information revolution (e.g., privacy, confidentiality, reliability of data; disparities among racial, ethnic, and cultural groups in use of and benefit from information technologies).

—Improving education through advances in educational technologies (e.g., intelligent tutors), and in understanding of learning processes.

The objectives for KDI in fiscal year 1999 reflect these longer-term goals. Within NSF, the major objectives for fiscal year 1999 are as follows:

—Conduct a new KDI proposal competition with a budget of approximately $60–70 million, funding approximately 70–80 proposals in the focal areas of Knowledge Networking, Learning and Intelligent Systems, and New Computational Challenges.
—Continue to support other KDI activities (e.g., Digital Libraries Initiative, research proposals submitted to disciplinary programs).
—Explore the development of international KDI endeavors involving cooperation with NSF's counterpart agencies in other countries, to stimulate international collaborations in KDI research.
—Evaluate NSF's KDI activities funded in fiscal year 1998 and 1999 to assess the need for changes in scope, emphasis, or management of the initiative.

Scientific research and training objectives for KDI in fiscal year 1999 are difficult to specify precisely, because most of the research projects that will be supported by KDI in fiscal year 1999 have not yet been selected or even received. In general terms, the expected outcomes include the following:

—Formation of multi-disciplinary research teams, and an increase in the number of such teams supported by NSF;
—An increase in the number of graduate and post-doctoral students receiving multi-disciplinary training in KDI-related research; and
—Significant advances in the research areas targeted by KDI in fiscal year 1998 and 1999, such as:
  —digital libraries;
  —high-speed networks;
  —tools and techniques for collecting, organizing, distilling, searching, and disseminating information;
  —prototype knowledge networks;
  —ethical, social, legal, political, and economic implications of the information revolution;
  —computational methods for addressing scientific problems involving multiple scales in space or time;
  —computational methods for scientific problems involving dynamic interplay between data and computation in real time;
  —learning and intelligence in natural and artificial systems; and
  —learning tools and educational technologies.

INCREASING AWARD SIZE AND DURATION

Question. Dr. Lane, one of the objectives you seem to have with this budget is to increase the average award size—and award duration. Other than giving researchers more money to cover their work for longer periods of time, what does the Nation and the research enterprise get out of this? Remind us what is the average NSF award size and how does it compare to the average NSF award five years ago—and how does it compare to the average NIH award?

Answer. In addition to providing more funds for researchers and stabilizing their research support, there are other significant benefits to the researcher, the research community, and the government, associated with reducing the number of applications submitted by the researcher. Providing extended funding reduces the frequency and amount of time spent by the investigator in preparing and submitting proposals and negotiating awards. There is an attendent reduction in the burden placed on merit reviewers, as well as reduced workload for both the programmatic and administrative staffs of NSF. Increasing award size also reduces the instances of multiple proposal submissions which are frequently necessary in order for the researcher to maintain his/her research program. This benefits not only merit reviewers and NSF, but also other Federal agencies to which the researcher may turn for support. In particular, NSF intends to emphasize stable funding for new investigators, so they spend more effort establishing their research programs and professional credibility and are less burdened with obtaining their next grant.

The NSF fiscal year 1997 annualized award size was a slightly below $83,000 (average) compared to the NIH basic research grant which averaged about $245,000. In fiscal year 1992, the NSF annualized average award size was approximately $74,000; a little over $83,000 in fiscal year 1997 dollars.

POLAR CAP OBSERVATORY

Question. Dr. Lane, I see that again this year you are requesting support for the construction of a polar cap observatory that would be located at the magnetic north pole in Canada. If you are unable to get the Polar Observatory on line in time for the next solar max event, is this project still worth pursuing at this time? Why?

Answer. We have requested authorization to provide up to $5 million in fiscal year 1998 to initiate the project, beginning with $2.5 million for non-site specific R&D that includes antenna engineering and design, prototyping of the antenna element unit and validation. The antenna for the PCO incoherent scatter radar is to be constructed from about 4,000 individual antenna elements. In 1998, these antenna elements would be designed and a prototype antenna constructed in California consisting of about 40 elements. The prototype antenna would undergo a series of tests to ensure that the waveform and radiation pattern of transmitted signals are as predicted by the preliminary design.

With these tasks accomplished in 1998, it will still be possible to complete construction of the PCO by the summer of 2001. If these tasks are not begun until the next fiscal year, it will mean a one-year slip in the schedule. Considering that the maximum of the solar cycle lasts only about four years, a one year delay will represent a significant loss in the amount of science that can be performed in the early life of the observatory. However, because the PCO is expected to operate for at least 30 years (similar to the other observatories in the chain), the observatory will operate through several solar cycles. Although it is not our last chance to operate the PCO during solar max, the growing susceptibility of technical systems to space weather makes it imperative that we begin these studies as early as possible.

Even if construction of the PCO were delayed, it would nevertheless provide very important information over its anticipated 30-year lifetime. Although the possibility of coordinated observations with many other national and international projects during the solar maximum period will have been lost, the scientific impetus for constructing the Observatory will remain strong. Therefore, if it does not go forward in the present budget cycle, the NSF and NSB would consider submitting it in a future budget request.

MATH AND SCIENCE EDUCATION INTERNATIONAL COMPARISONS

Question. Dr. Lane, since 1965, NSF has been involved in international comparisons of student math and science performance. For 30 years we've known that U.S. students are near or at the bottom of performance. The recent TIMSS finds that our 12th graders are still bringing up the rear. On Monday of this week, the Washington Post ran an opinion piece that advocated a "back to basics" approach to mathematics education. I appreciate that there is a fair amount of controversy regarding differing approaches about teaching mathematics at the K–12 levels. Nevertheless, the TIMSS study is a real eye-opener. What should we be doing and why have we made so little progress in 30 years?

Answer. Progress has been made over the last 30 years. Students are taking more advanced courses in science and mathematics, and student achievement has largely returned to or exceeded the levels set in the early 1970's. Clearly, the rate at which achievement has been increasing is something we want to accelerate.

The news from the Third International Mathematics and Science Study (TIMSS) is both good and bad. Although U.S. fourth-graders scored as well as their counterparts in some of the highest scoring nations in the world, and eighth-graders scored about average, U.S. twelfth-graders ranked at the bottom.

In general, TIMSS revealed that the U.S. curriculum at the 8th grade level and beyond is not consistent with those of other countries that performed well on the assessment. The curriculum is less focused and includes many more topics than is common inter-nationally. The topics—especially in mathematics—tend to remain in the curriculum for more grade levels, and there are indications that the material is pitched at a lower level. In sum, there is too much repetition of material, not enough coverage of core topics in science and mathematics, and expectations for student performance are set too low.

NSF supports projects addressing all major facets of teaching and learning (i.e., curriculum, instructional materials, assessment, teacher professional development, preparation of future teachers, reform strategies to improve resource allocation and cultivate change in school districts). For example, NSF-funded investigators have recently concluded the design of several comprehensive sets of mathematics curricula. Elementary science curricula have been completed and work continues on middle and secondary school science. Newer instructional materials are coming on-line and will be more widely available in the near-term. NSF encourages the alignment of curriculum and assessment, as well as related professional in-service development for K–12 teachers. NSF-supported products affect the education continuum at different points, and their impact on student achievement rates will necessarily vary.

We will have a clearer measure of what happens between elementary and middle school when the TIMSS study is repeated for the 8th grade in 1999. The 1999 study will tell us whether the relatively high performance of U.S. 4th graders in 1995 is

sustained (relative to other countries) through the 8th grade. If performance declines, the accompanying curriculum analysis should help inform us as to why. If performance of this cohort of students remains strong, then we have evidence that the 1995 high achievement levels of 4th graders reflected a revitalized U.S. curriculum at early grades that is now being carried forward into later grades.

K–8 MATHEMATICS INITIATIVE

Question. NSF and the Education Department: NSF and the Department of Education have proposed a strategy for improving mathematics and science education. One specific focus is on improving mathematics education at the eighth grade level. Since the two agencies have very different missions and operating procedures, how will this joint effort work and what will be the involvement of state and local education agencies in this activity?

Answer. The joint effort on improving mathematics achievement at the 8th grade level is moving on several distinct, but related, tracks. Rather than attempt to develop common operating procedures, the two agencies are bringing their existing strengths to this effort—developing better understandings of what each is doing and finding ways of cooperating where joint efforts could be effective. NSF brings a strong external peer review process, experience with developing models of excellence in professional development and instructional materials, and existing programs that are able quickly to move this initiative forward.

Specifically, NSF plans to put increased emphasis on a number of existing programs as follows:

—Increase the number of Local Systemic Change (LSC) teacher enhancement projects in middle school mathematics;

—Increase emphasis on middle school mathematics in all systemic initiative sites; and

—Strengthen programming for K–8 mathematics, especially at the middle school level, within teacher preparation projects.

The U.S. Department of Education (DoED) provides substantial financial resources through the Eisenhower program, Title I, and other programs. A major role of DoED in this joint effort is to help state and local education agencies better understand the range of possibilities for using federal funds appropriated for education and ways they can make better uses of these resources for improving mathematics education.

Additionally, NSF is working with DoED in planning for a competition for Capacity-Building Planning Grants to school districts for developing strategies for professional development that supports implementation of quality instructional materials and for effective use of federal resources to support related professional development.

State and local education agencies must be heavily involved in reform efforts and are the ones who must take the initiative in improving their mathematics education. NSF and DoED can provide assistance and guidance in navigating existing federal programs, providing awareness and access to resources (e.g., high-quality materials, effective strategies), and some financial support for developing and implementing exemplary models.

EDUCATIONAL TECHNOLOGY INITIATIVE

Question. Dr. Lane, in the budget request you have a total of $25 million laid out for a Foundation-wide initiative—with the Department of Education—for research on education and training technologies. Can you give a better idea what this program is all about and how you and the Department of Education will be working together?

Answer. The objective of the NSF/DoED Research on Education and Training Technologies initiative is to develop the knowledge base necessary to improve teaching and learning in reading, mathematics and science. It is the first phase of a planned interagency research strategy that derives from the President's Committee of Advisors on Science and Technology's (PCAST) Report to the President on the Use of Technology to Strengthen K–12 Education in the United States (March 1997). In accord with the PCAST Report, the initiative will seek proposals to perform:

(1) Basic research in various learning-related disciplines and fundamental work on educationally relevant technologies;

(2) Early-stage research aimed at developing new forms of educational software, content, and technology-enabled pedagogy; and

(3) Empirical studies to determine which approaches to the use of technology are most effective.

The program announcement and choice of projects will be guided by the pursuit of research bearing on two broad objectives: All children will be able to learn the basics of reading and mathematics and will have mastered these by the end of grade 3, and all mathematics, science, and reading teachers will have the high-level content, cognitive and pedagogical knowledge and skills required to perform their jobs effectively. It is expected that project proposals will be received from individual investigators as well as multidisciplinary teams carrying out large-scale empirical studies of effectiveness (e.g., using schools connected to systemic initiative projects as testbeds).

An NSF/DoED working group has been engaged for several months in defining the initiative, and two workshops are planned for early September 1998 to provide input for the interagency program announcement. The initiative will be administered jointly, and it is planned that proposals will be evaluated using NSF methods of merit review.

UNDERGRADUATE MATH AND SCIENCE EDUCATION PROGRESS

Question. The recent TIMMS study tells us that our Nation's 12th graders are not doing as well in math and science as our international competitors. Now for a number of years—spurred on by a National Science Board report in the late 1980's and this committee—NSF has invested on a number of fronts to improve math and science education at the undergraduate level. And late last month, the Carnegie Foundation came out with a report that was critical of the job our research universities are doing in undergraduate education. What is NSF's view on this matter?

Answer. The undergraduate education experience—at large, research-oriented or comprehensive universities or at four-year, liberal arts institutions and two-year institutions—is critical to the intellectual and career development of students. The report by the Boyer Commission on Educating Undergraduates in the Research University, created under the auspices of the Carnegie Foundation for the Advancement of Teaching, discusses the undergraduate education experience at a total of 125 "Research I" and "Research II" universities in the United States where approximately 15 percent of the nation's undergraduate students are enrolled. The Report makes numerous recommendations for change in undergraduate education, especially at those institutions.

The report also includes a number of "Signs of Change"—vignettes—that describe existing outstanding programs at these same institutions that have been implemented explicitly to enhance the education of undergraduates. These programs illustrate some of the ways to meet the recommendations in the Carnegie Report, and many of these programs have received support from the NSF.

Having made similar observations to many of those highlighted in the Carnegie Report, NSF had begun taking action prior to the issuance of the report. New merit review criteria, which went into effect in October 1997 for all proposals submitted to the NSF, require reviewers, for all programs across NSF, to consider how effectively investigators link their research and education responsibilities. The informal response from the research and education community has been quite positive, and the new criteria expand our abilities to fund exemplary projects that can improve undergraduate classroom education.

NSF sponsors a variety of efforts that address many of the suggestions in the Report. Our programmatic focus includes students enrolled at research universities and those enrolled in comprehensive universities, baccalaureate (four-year) institutions, and the community colleges (two-year institutions). A number of NSF programs are designed to support traditional, basic research with a required component being the inclusion of opportunities explicitly designed for the education of undergraduate students. Such programs include the Engineering Research Centers, Science and Technology Centers, Materials Research Science and Engineering Centers, Research Experiences for Undergraduates, and Research in Undergraduate Institutions. In addition, NSF's Faculty Early Career Development program is aimed at young faculty who effectively integrate research and education and NSF's Recognition Awards for the Integration of Research and Education acknowledge exemplary institutional efforts at combining research activities with high-quality education efforts.

Other programs of the NSF focus on curricular reform at the undergraduate level and make use of the research expertise of faculty from research institutions to inform the effort. Some of these programs also include opportunities for research experiences for undergraduate students as an integral part of the projects. These programs include Course, Curriculum, and Laboratory Improvement, Alliances for Minority Participation, NSF Collaboratives for Excellence in Teacher Preparation,

Combined Research-Curriculum Development, and the Engineering Education Coalitions.

PLANT GENOME

Question. Dr. Lane, excluding the funding that has been set-aside for Arabidopsis and any NSF funds used for the international rice effort, how much of the remaining Plant Genome funding will be available for the most economically significant crops? How are you determining the most economically significant crops? For example, what are the total, annual receipts needed for an individual species to qualify for the program?

Answer. NSF plans to spend up to $10M out of the $40M Plant Genome Research allocation specifically for accelerated sequencing of the Arabidopsis genome. Therefore, at least $30M is available to support research on non-Arabidopsis genomes.

The goal of the NSF plant genome research program is to support research that will lead to understanding of the structure, organization and function of economically significant plants. In soliciting proposals for the Plant Genome Research Program, NSF has sought ideas from the scientific community that will contribute to the program goal. Under this system, it is incumbent upon the applicants to justify the use of specific plant species in their research projects and to convince reviewers how their studies will contribute to the program goal. Reviewers evaluating the proposals determine whether the proposed projects will indeed contribute to the program goal. One of the evaluation criteria for the plant genome research program is "relevance or potential impact of the proposed project to the development of improved, economically significant plants." So, the scientists define "economically significant plants" collectively, as applicants and reviewers.

Question. It is my understanding that efforts are underway for an international consortium on sequencing the rice genome. Recently, the Japanese government announced a $128 billion package of spending and tax cuts that includes significant cuts in R&D programs while focusing most of the research spending on bricks and mortar. I am concerned that the U.S. will be asked to pay for more than 15 or 20 percent of the overall effort. What assurances do we have that the Japanese will, in fact, bear the majority of the cost of sequencing the rice genome?

Answer. The Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) has approved a 10-year project to sequence the rice genome beginning in fiscal year 1998. While there is no guarantee that MAFF will be able to keep this commitment for the next 10 years, the Japanese scientists are proceeding with the plan. MAFF has made a major investment in the rice genome project for the past 7 years, and as a consequence, Japan is a leader in rice genome research. It would be to their advantage to maintain that leadership.

Efforts to establish internationally coordinated rice genome sequencing have been ongoing at the initiative of interested scientists from all over the world. Currently, scientists from Japan, U.S., European Union, France, China, Taiwan, Singapore, and Korea have expressed interest in conducting a large-scale high throughput sequencing of the rice genome. A proposed plan published in February 1998, by an ad hoc committee of international scientists, calls for completing about one-third of the total sequence by the year 2003, with Japan contributing 50 percent of that goal and the rest of the international consortium contributing the balance.

STATUS OF SUPERCOMPUTER PROGRAM

Question. Dr. Lane, last year at this time NSF had just made its decisions with respect to which university supercomputer centers would be supported in your new Partnerships for Advanced Computing Infrastructure program. Can you give us an update as to how the transition process is going? As I recall, you were going to have to move users from centers in New York and Pennsylvania to the centers in Illinois and San Diego. How has that gone and what are we doing to get the new computing centers up to full power?

Answer. The users of the Centers program have been almost completely migrated to the new program. When they have requested it, all of their data and applications have been moved to a Partnerships for Advanced Computational Infrastructure (PACI) site.

For fiscal year 1998, the total number of cycles available will be about the same as in fiscal year 1997, thus assuring no net loss of cycles during the transition period. We should note, however, that because of the transition, there will be no growth in capacity for the year.

An IBM system of more modern design and equivalent in power to the one at Cornell has been installed and is functional at San Diego. Loss of access to the systems at the Pittsburgh Supercomputing Center has temporarily reduced the computing

resources available, especially for users of the Cray T3E. Many users have had their allocations reduced below their requests or have had to move their computing to platforms other than the T3E. Now that the transition period is completed, acquisition of new systems with fiscal year 1999 funds will enable traditional annual increases in capacity.

MAJOR RESEARCH INSTRUMENTATION

Question. Dr. Lane, a few years back, we had a separate academic research infrastructure account—part of it went for modernizing labs and other research facilities and the other part of it went for fairly large scale research supports the laboratory modernization program, but I believe you still have a $50 million large scale instrumentation effort. Is that right?

It is my impression that the $50 million is spread out among the research directorates, yet the budget request provides no details on the distribution of the instrumentation resources. It would help us if we could get a table for the record showing how the $50 million in instrumentation support has been initially distributed among the directorates and something on the rationale for that distribution.

Answer. NSF currently is supporting a $50 million large-scale instrumentation effort. The Major Research Instrumentation Program allocates funds in the range of $100,000 to $2,000,000 for instrumentation that is not readily available from normal NSF programs. This $50M cross-directorate instrumentation program seeks the best investments for instrumentation acquisition and instrument development. Below is a table of the actual distribution of fiscal year 1998 MRI funds and the estimated distribution of fiscal year 1999 MRI funds. The estimated distribution for fiscal year 1999 funds is based on the three-year (fiscal year 1996, 1997, and 1998) average of funds actually obligated by each Directorate.

DISTRIBUTION OF MRI FUNDS

[In millions of dollars]

	Fiscal year	
	1998	1999 Estimate
BIO	9.28	10.25
CISE	6.92	7.99
ENG	10.87	8.93
GEO	7.78	8.28
MPS	12.21	12.28
OPP	0.28	0.64
SBE	2.67	1.64

The final fiscal year 1999 distribution of these funds will be based on the merit of the research and education proposed for the instrumentation requested.

ENVIRONMENTAL RESEARCH AND THE NATIONAL INSTITUTE FOR THE ENVIRONMENT

Question. Dr. Lane, recall that this committee asked NSF to report in April on what it would take to establish a National Institute for the Environment (NIE) within the Foundation. The Subcommittee received that report on April 22 and it is pretty clear the Foundation believes that enhanced support for environmental research makes good sense, but you would go about it in a way different from the NIE proposal. Please give us a thumbnail sketch of the Foundation and the Board's view on this matter.

Answer. The views of the National Science Board on the NIE are summarized in a resolution adopted by the Board in February 1998. The resolution, "The Proposed National Institute for the Environment" (NSB–98–65), which provides policy guidance to the Foundation, is attached.

There are three main points, outlined below, articulated in the report prepared by NSF on this issue.

(1) NSF is committed to environmental research and education and is eager to expand its role in a manner consistent with overall national goals and with its mission and strategic plan, particularly in those areas where NSF can play a catalytic role. NSF currently manages a complex, merit-reviewed portfolio of basic environmental research and education in broad areas of science and engineering. In addition, we

are enhancing, consistent with organic developments within science and engineering disciplines, efforts to integrate environmental research across the Foundation. By further augmentation of its already significant role as a sponsor of fundamental, broad-based research and education activity related to the environment, NSF can serve as a key component of an enhanced NSTC activity discussed below.

(2) The range and complexity of environmental research, as well as the diverse needs of those who depend on the results of such research, require a heightened response involving many Federal agencies. Thus, the Report has recommended a revision of the existing interagency strategy into a new National Science and Technology Strategy for the Environment that involves all relevant agencies; is based on competitive, merit-reviewed activities; and seeks to define and to link the information needs of policy-makers as closely as possible with relevant environmental research opportunities. The structure for developing and coordinating this Strategy should be led by the White House, particularly the Office of Science and Technology Policy (OSTP) and the relevant committees of the National Science and Technology Council (NSTC), with the advice of the President's Committee of Advisors on Science and Technology (PCAST). This coordinating structure should be strengthened in order to carry out the goals of the "National Strategy."

(3) The National Science and Technology Strategy for the Environment should influence agency planning and budgeting. NSTC, working through the Executive Branch budget process, should establish priorities and consider the appropriate level of funds to support the strategy. This could result in a strengthened effort to address the challenges suggested by the proposers of the institute concept and by other interested entities. The NSTC and CENR should continue to serve as a forum for coordinating assessments related to environmental policy objectives. Such assessment activities and any necessary "stakeholder" coordination activities could be conducted by the NSTC itself, supported by the CENR, along with the appropriate external entities.

Establishing a stand-alone entity or agency would not be an effective means of achieving the proposed intellectual goals of an environmental institute for the reasons articulated in the Report. NSF believes that the approach outlined in the Report will link environmental assessment, research, education, and information dissemination efforts, suggested as functions for such an entity, more effectively to the missions of the various agencies and to the needs and interests of the public and its policy-makers.

LARGE HADRON COLLIDER

Question. This budget proposes a new start for NSF requesting $22 million for an initial contribution to the Large Hadron Collider. And according to the budget request, by 2003, NSF expects to provide a total of $81 million towards the construction of detectors to be installed in the LHC project. It is my understanding that the Department of Energy is planning on providing a total of $450 million for this project—located at the CERN laboratory in Switzerland. Given the heavy involvement of the Department of Energy, what is the significance and role of the Foundation in this project?

Answer. The LHC has a very high discovery potential for new physics. The LHC project represents cutting-edge science leading the frontier in high energy physics for the next two decades or more. The roles of NSF and the Department of Energy (DOE) are both significant because each brings critical, yet distinct, intellectual expertise to the project. The NSF support for this project will allow the full participation of many NSF-funded university groups. These groups provide much of the intellectual leadership in this project and will contribute substantially to the technical expertise and infrastructure needed for its successful completion. The involvement of these universities will also allow their students to gain experience working at the research frontier, and will allow the outreach activities connected to the LHC to benefit as wide a community as possible.

It is important to note that because of the high cost associated with projects like the LHC, international partnerships are now considered almost essential. The LHC has established a joint management structure whereby the decision-making process is equal, regardless of the funding provided.

MILLIMETER ARRAY RADIO TELESCOPE

Question. Dr. Lane, this budget is requesting an additional $9 million for the second installment in the design and development phase of the millimeter array radio telescope. As I understand it, you need a total of $26 million to complete the design and development phase. Then to actually build the telescope—which would consist of a substantial number of individual 8-meter radio telescopes all linked together

electronically—it will cost something like an additional $200 million. Where are you in putting together an international partnership to help defray the total cost of the telescope. And what level of international participation are you attempting to obtain? Provide for the record you current set of milestones for this project.

Answer. NSF has encouraged the National Radio Astronomy Observatory (NRAO), the organization that developed the Millimeter Array (MMA) proposal, to explore possible partnerships with foreign organizations. The European Southern Observatory (ESO) has expressed strong interest in becoming a partner. ESO may reach a decision on this matter as early as the end of 1999. A collaboration with Japan, which seemed promising one or two years ago, currently seems less likely due to economic constraints there.

NSF considers international and/or other-agency participation at the 25–50 percent level important for both the construction and operations phases of the MMA project. The National Science Board has indicated that it intends to evaluate cost sharing arrangements when it considers whether to authorize Phase II construction of the MMA.

Current milestones for the MMA project are:

Fiscal year 1998 milestones.—Design antenna; Select MMA site; Begin negotiations with possible international partners; Design and begin construction of prototype receivers; Design prototype correlator, computer/software system, LO and fiber optics systems; Select project architect/engineer; and Begin design of civil works.

Fiscal year 1999 milestones.—Deliver first prototype receiver and computer/software system to test site; and Select Photonic or Gunn LO system.

Fiscal year 2000 milestones.—Finalize agreements with international partners; Deliver antenna 1 to U.S. test site; Begin antenna 1 single dish testing; and Deliver all remaining receivers to test site.

ZARE'S TERM ON THE NSB ENDING IN MAY

Question. Dr. Zare, since you joined the Board about six years ago, you have served with distinction. For the last two years you have guided the Board as its chairman and have sought to revitalize the Board as a major player in national science policy. Should this turn out to be your last appearance before this subcommittee as a member or chairman of the board, do you have any final observations you might care to share with us today?

Answer. Chairman Bond, Thank you for giving me the special opportunity to share with you some thoughts as I step down as Chairman and leave the National Science Board after six years of service. With your permission, I would like to enter for the record the farewell remarks I made to the National Science Board (attached). I also would like to offer three personal observations:

First, the best science policy for our country is to continue strong bipartisan support. We need buy-in from as many different points of view as possible. By its very nature, scientific research is a long-term undertaking that requires sustained support for its payoff. Only with a bipartisan consensus can we expect this enterprise to flourish. To do otherwise is to invite a roller coaster ride that is a dangerous path to follow.

Second, let me commend Congress for repeated support for growth in the Federal science and technology budget. For ourselves and for the generations of Americans to come, we must continue and substantially increase investment in science and technology. Such investment really has provided handsome returns in creating new jobs and new wealth. What is more difficult to measure but may well be more important is the following: The investment in scientific research directly affects the quality of life, the health, and the defense of the country. Moreover, it provides the capability of finding successful answers to unimagined new problems and threats drawing on the reservoir of knowledge and human resources developed through research.

It is easy for some to say that this response is just what you expect from a working scientist, that the scientific community is never satisfied. I for one think that as a community we have demonstrated leadership in setting priorities within individual fields, and I am impatient to taste and savor the benefits that increased funding of identified priority areas of science and technology would bring to our society. We truly are on the threshold of wonderful new discoveries and advances, and we must find the will to commit resources to reach these goals.

Finally, a smart science policy does not make all its new investments in just a few areas, no matter how promising or inviting these areas might seem to be. We must recognize that one of the most striking changes taking place in science and technology is the rapidly increasing interdependence on all types of knowledge and know-how. Breakthroughs in a given field frequently have profound consequences

for distant and unexpected areas of knowledge. We must avoid optimizing near-term returns to the exclusion of long-term benefits that come from a balanced science policy of widespread but carefully chosen support. In this context, let me offer a caution: The popular debate on whether it is better to support practical versus curiosity-driven research can blind us to an important fact. Research, whatever it is labeled but so long as it is of high quality, invariably has broad benefits, both to advancing fundamental science and finding important applications. Moreover, let me emphasize that the consequences of research remain unpredictable. A wise science policy is not one that foresees the future but rather one that enables it to unfold.

ATTACHMENT NSB–98–83 (REVISED)

RICHARD N. ZARE, CHAIRMAN, NSB MAY 1996–MAY 1998

REPORT TO THE NATIONAL SCIENCE BOARD MAY 7, 1998

Winston Churchill said, "Success consists of going from failure to failure without loss of enthusiasm." In that spirit let me describe to you what progress I think the National Science Board has made during the time I was its chairman. To me, the most significant change has been a reaching out by the Board to address issues bigger than the immediate concerns of the National Science Foundation. As you know, the Board has by statute a dual role, namely, to set policy for the National Science Foundation and to report to the President and to Congress on the state of health of the nation's science and engineering enterprise. It is in that second realm, I believe, that the Board has assumed a much larger presence.

NSB OVERSIGHT OF THE NATIONAL SCIENCE FOUNDATION

I will not recite a litany of standard though important activities, such as approval of the NSF budget, work on long-range planning, approval of various large NSF awards and programs, supervision of the Inspector General, approval of the Vannevar Bush and Waterman Award winners, etc. Instead, let me highlight some specific items from NSB's special responsibility to oversee NSF. The Board has taken its responsibilities most seriously, approving several actions of consequence. It has:

—Revised the criteria for merit review of all NSF proposals, reducing the number from four to two and sending a clear message that what counts, in brief, is a proposal's intrinsic excellence and impact;

—Established that the default policy on renewal awards is that all expiring awards be recompeted unless it is judged in the best interest of U.S. science and engineering that they not be;

—Approved a Science and Technology Centers Program and provided guidelines for its management that stress educational outreach and the creation of partnerships;

—Approved NSF's participation in the Large Hadron Collider project, which involves multi-agency support of a large facility not located in the U.S.;

—Approved a major revamping of the nation's supercomputer activities which has broadened from centers to partnerships enlarging the base of supercomputing and the reach of this program;

—Issued policy guidance on NSF's role in the assignment of domain names;

—Participated in a multi-agency discussion of what is scientific misconduct and how misconduct proceedings should be carried out in general;

—Provided oversight, through an NSB/NSF staff working group, for the development of the NSF Strategic Plan and NSF Performance Plan under the Government Performance and Results Act; and

—Approved a resolution on the proposed National Institute for the Environment that actively supports the Foundation's role in fundamental environmental research but does not support a separate, stand-alone organization for this purpose.

Reform of NSB Operations

We began, under the most able leadership of our Vice-Chair, Diana Natalicio, by significantly revising Board operations, particularly its calendar.

—We agreed to reduce the number of Board meetings to five and to have one of these meetings each year in a location outside NSF and the Washington, DC area;

—The Board made an important decision about its organization in addressing NSF responsibilities by agreeing to have non-overlapping memberships in its three standing committees: Audit & Oversight (chaired by Charles Hess), Edu-

cation & Human Resources (chaired by Shirley Malcom), and Programs & Plans (chaired by John Hopcroft). These standing committees have been put on a comparable footing with various task forces reporting to each standing committee. It is my impression that this division of labor has served us quite well;

—We delegated additional responsibility to the Executive Committee, specifically, the authority to approve the budget that NSF submits to the Office of Management and Budget each year;

—We have moved to modernize the NSB meeting procedures, encouraging reliance on information technology to conduct our work; and

—We have produced an election protocol for filling the positions of Chair, the Vice Chair, and four of the five positions on the Executive Committee.

NSB National Policy Role

I turn to activities "external" to NSF. To provide a quick summary, we:

—Established a National Science Board Public Service Award, to be given annually to an individual and to a group who foster the public's understanding of science and technology;

—Produced a Working Paper on Federal Support of Science Research that called for more understanding of the methodology of priority setting;

—Held our first off-site policy meeting in Houston, Texas, on the campus of the University of Houston on the subject of the Federal role on graduate and postdoctoral education;

—Produced a National Science Board Paper entitled "The Federal Role in Graduate and Postdoctoral Education." This work came out of our meeting in Houston, Texas, and responded to the Presidential Review Directive to contribute to this assessment process. It also came out of the continuing NSB–GUIRR project on Stresses on Research and Education in Higher Education Institutions. This project has gone through two phases and has so far involved a total of 25 universities and colleges that are prominent in science and engineering research and education and that have participated in campus discussions and in one or both national meetings in Washington, DC;

—Approved a resolution confirming NSB's intention to prepare analyses ("occasional papers") for input to the process of developing the Federal budget for science and engineering research and education;

—Prepared and approved for release the paper "Industry Reliance on Publicly Funded Research," which should be available in the next few weeks;

—Worked to revise and improve Science & Engineering Indicators, which will also be available in a few weeks; and

—Published a collection of papers delivered at the NSB symposium on the University of the 21st Century, held during the March 1996 NSB meeting at the University of California, Davis, chaired by Dr. Frank Rhodes, just before I became chair.

A good measure of our desire to reach out can be found in the attached Appendix, which lists the invited visitors and speakers we have had at NSB meetings or functions during the past two years. I think that this collection of people is very revealing of our intentions.

We know that it is easy for people to stumble and fall when they seek to follow a new path. In particular, we have become aware that it is awkward for the NSF Director, as a member of the Board, to vote on the clearance and approval of NSB reports on national research and education policy that may affect Federal agencies other than NSF. These considerations have led us to urge the Director to abstain as a matter of principle from such votes. In this regard, we are also developing a separate Board logo (not yet approved) to help distinguish ourselves from NSF in this new policy role. To me, these are clear signs that we are breaking new ground, but we have much more to do and to learn before we become really effective. It is my belief that the Board's appetite has been whetted for this new role and that there is now no turning back.

Reflections and Comments

Let me add a more personal note on what being Chair of the Board has meant to me. These past years have been my most rewarding experience of public service of any type. The more I gave, the more I received from others. During this period I authored seven editorials (two in Chemical and Engineering News, two in the Journal of Chemical Education, one in Science, one in The Scientist, and one in the New York Times Op Ed page). I appeared five times at Congressional hearings and I twice had the misfortune of traveling across the country to attend hearings that were cancelled at the last moment—something I call painful loss of hearing! I also

made official visits to New Zealand (where I had the pleasure of dedicating a C–130 transport), to Antarctica, to Mexico, and to China.

This "burst of activity" by the Board would not have occurred without strong support from others, especially the NSF Director, Neal Lane, who let it happen, and Dr. Marta Cehelsky, NSB Executive Officer, who provided the Board and me with huge assistance in spite of being quite understaffed to handle an activist Board trying to blaze new trails.

What advice might I offer future members of the National Science Board? When I reflect on what needs to be done to sustain our progress, I recall a powerful statement whose source is unknown to me: "To succeed in politics, it is often necessary to rise above your principles." When I first heard these words, I thought them strange. They are quite different from what Groucho Marx said: "Those are my principles, and if you do not like them, * * * well, I have others." The statement about the need to rise above principles, I have come to realize, contains special wisdom. I suggest that future Board members must be guided by their principles in carrying out all the tasks of the National Science Board, but once the Board has decided on a course of action, its members must learn to pull together in support of one another provided that our decision is not offensive to our most deeply held principles. Too often consensus is equated with near unanimity. We must learn how to reach consensus and then move on to do other business. The National Science Board is not a faculty senate meeting in which those who do not get their way remain free to object indefinitely, a behavior pattern not limited to those in universities.

It has been a true pleasure and a high privilege for me to have had this opportunity to serve on the National Science Board for six years and as your Chair for the past two years. I will miss the good companionship it has provided me, and the opportunity for my own personal growth. In following along these new paths, the National Science Board can make an even more positive contribution to the nation.

RICHARD N. ZARE,
Chairman, 1996–1998.

ADDENDUM, MAY 8, 1998

To complete the record for this term, after this report was written, during its May 6–8 meeting, the Board:

—Approved a logo for the NSB; and

—Met with Newt Gingrich, Speaker of the House of Representatives.

ATTACHMENT 2

GOVERNMENT PERFORMANCE AND RESULTS ACT—PERFORMANCE PLAN

Question. Dr. Lane, earlier this month the committee received your performance plan as mandated under the Government Performance and Results Act. We noticed that you elected to use a more qualitative approach rather than the quantitative approach used by some other agencies. In other words, you took advantage of the flexibility provided in the act for a so-called "alternative" approach in setting goals and outcomes and then assessing your progress towards their attainment. Briefly describe your approach to performance assessment with respect to research and education and why you believe the alternative approach makes the most sense for your research and education programs.

Answer. The National Science Foundation's fiscal year 1999 GPRA Performance Plan includes a combination of qualitative outcome-oriented goals and quantitative output goals. The quantitative goals are used to establish measures for the performance of NSF's investment process and management. The qualitative goals are used to assess the outcomes of NSF's investment in science and engineering research and education.

The National Science Foundation uses a process of merit review with peer evaluation to identify the most promising proposals from researchers and educators. In addition, NSF has in place a mechanism for assessment of these processes. Each NSF program is evaluated by an external panel of experts (called a Committee of Visitors or COV) every three years. COV's evaluate the thoroughness, impartiality, and credibility of the merit review process. The reports from COV's are transmitted to Directorate-level Advisory Committees, to the cognizant NSF Assistant Director for response, and ultimately to the Director, Deputy Director, and Chief Financial Officer.

As noted in NSF's fiscal year 1999 GPRA Performance Plan, "NSF is committed to using panels of external experts to assess on a regular basis its effectiveness and directions." NSF will operate this assessment process through the directorate-level

advisory committees. The COV process is being modified to include attention to results as a source of input to the advisory committees. This will provide consistent, comparable evaluation information that can be integrated at the Foundation level.

NSF's process of merit review with peer evaluation focuses on the individual project level. The Foundation's staff of scientists, engineers, and educators consider the expert advice of peer evaluators from the research and education community and recommend support for the most promising research and education project proposals. Since both the substance and the timing of outcomes from these NSF-supported activities are unpredictable, performance standards for the results of NSF's investments in research and education cannot be adequately expressed in quantified, annual performance goals. NSF has expressed its performance goals for results as descriptive standards under the GPRA option for use of the alternative format. NSF's level of success in achieving these results-oriented goals will be determined through external assessment processes as described above. This approach allows for a responsible and comprehensive assessment of the continuous flow of results from NSF-supported activities.

YEAR 2000 COMPUTER PROBLEM

Question. Dr. Lane, describe where you are in getting a handle on the year 2000 computer problem. I understand in the House, the Government Reform Committee reviewed all agencies for their work on getting the Y2K problem under control. Where did NSF come out in that review?

Answer. NSF is on schedule for achieving Year 2000 (Y2K) compliancy well before the turn of the century. OMB has consistently classified NSF as making satisfactory progress (the highest classification given) on its Y2K activities. During the last Y2K reporting period (May 15, 1998), NSF received an A− from the House's Subcommittee on Government Management, Information and Technology, Committee on Government Reform and Oversight. Only four agencies received a grade of A.

QUESTIONS SUBMITTED BY SENATOR BURNS

EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH

Question. EPSCoR (Experimental Program to Stimulate Competitive Research) has been important to Montana and some 18 other states which are largely rural. The heart of the program consists of infrastructure awards, EPSCoR grants and, more recently, co-funding. I am deeply concerned about the ability of the program to move forward without an increase in the base EPSCoR program. How can we insure that all three components—infrastructure awards, EPSCoR grants and co-funding advance?

Answer. The fiscal year 1999 EPSCoR co-funding from research programs increases to approximately $15 million, $5 million over fiscal year 1998. In fiscal year 1999, EPSCoR will: (1) make approximately 19 infrastructure development awards and (2) match the $15 million of available co-funding from the Foundation's regular research programs. EPSCoR's highest priority is to "mainstream" EPSCoR researchers and their institutions into the Foundation's regular grant programs. The co-funding effort thus represents the cornerstone of EPSCoR's "mainstreaming" strategy, since each dollar of EPSCoR support has the potential to leverage one additional dollar of research program support (i.e., the proposed $30 million total research grant support in fiscal year 1999). Under the fiscal year 1999 EPSCoR budget request of $38.41 million, operation of the EPSCoR Grant program would be modified; e.g., smaller, more-targeted awards would be made.

EPSCOR STATE REPRESENTATION IN NSF ADVISORY CAPACITIES

Question. We have, for some time, been concerned about the lack of representatives from EPSCoR states on science boards and advisory committees and peer review panels. Are we making any progress on this?

Answer. The EPSCoR Office reports annually to the Director on the level of participation of scientists and engineers from EPSCoR jurisdictions as NSF merit reviewers. In fiscal year 1996, the EPSCoR Office compiled and distributed to the Foundation's Directorates a list of over 1,900 potential reviewers from EPSCoR states. The intent was to provide the Directorates with a pool of available EPSCoR merit reviewers from which NSF program staff could select. In fiscal year 1997, a total of 449 EPSCoR scientists and engineers, identified in the database, were selected by NSF programs as review panelists. This number compares to 333 in fiscal year 1996 and represents a 34.8 percent increase in the use of those individuals identified by the EPSCoR states as being highly qualified to participate in the NSF

merit review process. In addition, EPSCoR membership in the Foundation's "General Advice Committees" has also been examined. These committees, which provide general or specific advice on NSF programming, include: (1) The advisory committees for the seven directorates and the Office of Polar Programs; (2) the Committee on Equal Opportunities in Science and Engineering; (3) the Advisory Committee for Industrial Innovation Interface; (4) various public award committees (e.g., the Alan T. Waterman Award); and (5) ad hoc special topic committees (e.g., Antarctic Blue Ribbon Panel). Excluding members of the Foundation staff, membership on the "General Advice Committees" totaled 285 in fiscal year 1997. Of this number, nine people were identified as being from EPSCoR states.

STATUS OF VBNS GRANT TO MONTANA STATE UNIVERSITY

Question. Montana State University has been awarded a vBNS high performance networking grant. When do you expect funding to be available?

Answer. An initial installment of $175,000 was awarded in February 1998. The remaining $175,000 will be awarded when the University notifies NSF that it has signed an agreement with a high performance network provider to use its system and has an anticipated connection date. The Principal Investigator plans to be connected in September 1998, so the notification is expected in the near future.

EPSCOR STATE BENEFITS FROM DOMAIN NAME REGISTRATION FEES

Question. In the recent Supplemental Appropriations Bill, we included language which hopefully will meet the legal objections which had been raised in connection with the use of domain registration fees. What do you see as the outlook for these funds? How will EPSCoR states benefit from them?

Answer. Section 8003 of the fiscal year 1998 Supplemental Appropriations and Rescissions Act (H.R. 3579) included language ratifying NSF's use of domain name registration fees that had been collected by our awardee, Network Solutions, and placed into a fund for the preservation and enhancement of the intellectual infrastructure of the Internet. Presently, NSF is in the process of seeking judicial release of these funds—which amount to approximately $58 million—for use as part of our Next Generation Internet (NGI) initiative and related information technology activities. While NSF's request to the Court is being contested, the Office of General Counsel anticipates a favorable district court ruling by late summer. These funds would then be available for the NGI initiative and related information technology activities, subject to possible district court review.

The influx of these funds will carry the Foundation toward our NGI and broader information technology goals which include conducting experimental research in new networking technologies, creating experimental network testbeds at research institutions nationwide and developing new revolutionary research applications. Moreover, in order to address inequities that may be caused by the remote location of research institutions in many EPSCoR states, NSF has arranged to review successful high performance connections proposals from research institutions in EPSCoR states and to award up to an additional $200,000, beyond the $350,000 maximum, where extraordinary costs are required to connect to the NSF NGI backbone network.

EPSCOR STATE CONNECTIONS TO VBNS

Question. How many institutions in EPSCoR states have now been awarded vBNS connections grants and at what level of connectivity? How many are actually connected?

Answer. Eight institutions in EPSCoR states have been awarded high performance connections grants. As of June 15, 1998, one awardee has been connected (University of Alabama at Birmingham).

ADVANCED NETWORKING INFRASTRUCTURE

Question. How does the Internet 2's Abilene project relate to the NSF's VBNS?

Answer. The Vice President, on April 14, 1998, unveiled the University Consortium for Advanced Internet Development (UCAID) project named "Abilene." This UCAID project, to be undertaken in partnership with Qwest, Nortel, and Cisco, would build a second Internet2 backbone network to serve the research community along with the existing NSF-supported vBNS backbone network. It is anticipated that universities may receive NSF support to connect to and use either vBNS or Abilene. The Abilene network is complementary to the vBNS and will assist NSF in performing its mission to support the U.S. research and education community. Because of the extraordinary demand for bandwidth and advanced networking serv-

ices, no single network would be able to fill the needs of the research and engineering community by itself. Having multiple experimental networks will also facilitate very important and interesting research that remains to be done to enable end-to-end services such as quality of service and security across multiple networks. This activity illustrates the increasing breadth of the networking partnership with the private sector that will help assure the preeminence of U.S. industry in this important new technology, and will help provide capabilities needed by the nation's academic community to continue to retain its preeminence in cutting-edge research.

GEOGRAPHIC DISTRIBUTION OF GIGAPOPS

Question. What responsibility does NSF have for assuring reasonable geographic distribution of gigapops? What can you do to help insure that rural areas have reasonable access to gigapops?

Answer. The current NSF high performance connections program provides support directly to universities. Universities, both NSF-funded and others, may band together to create regional gigapops if they decide that it is in their interests to do so. High performance connections awards funded by NSF may be used by the universities to support gigapops as well as other efforts. Since the geographical distribution of universities receiving high performance connections awards is quite broad (we anticipate that at least one location in each state will receive an award), gigapops should arise where and when the awardees and others decide that they are appropriate.

EPSCOR STATE PARTICIPATION IN ADVANCED COMPUTING APPLICATIONS

Question. EPSCoR was, I understand mentioned in both the successful NCSA and the NPACI advanced computing applications. How are EPSCoR states included in these programs?

Answer. In fiscal year 1997, the EPSCoR Office sponsored a technical workshop for EPSCoR researchers at the National Computational Science Alliance (NCSA) on the campus of the University of Illinois, Urbana-Champaign to acquaint them with opportunities available through the Foundation's Partnerships in Advanced Computational Infrastructure (PACI). As a result of these efforts, 32 EPSCoR institutions in 14 states have become affiliated with the NSCA initiative through their status as EPSCoR program participants. An orientation and planning meeting of EPSCoR researchers and federal R&D personnel was also held in October 1997 at the Earth Resources Observation System Data Center (Department of the Interior, Sioux Falls, South Dakota) to develop partnerships among NSCA, federal R&D agencies and Midwest EPSCoR institutions. An additional technical workshop was conducted in June 1998 at the Georgia Institute of Technology. The purpose of the workshop was to form R&D collaborations among the NCSA and EPSCoR researchers.

Two EPSCoR institutions (University of Kansas and Montana State University) are currently members of the National Partnership in Advanced Computational Infrastructure (NPACI). To increase EPSCoR participation in NPACI, EPSCoR is sponsoring an information workshop in October 1998 at the San Diego Supercomputing Center on the campus of the University of California, San Diego. The workshop will acquaint university presidents and members of EPSCoR state higher education governing boards with the opportunities that NPACI membership affords. Special emphasis will be placed on acquiring NPACI membership for institutions in the western EPSCoR states (Idaho, Kansas, Montana, Nevada, Oklahoma, Wyoming).

PLANT GENOME

Question. How is NSF addressing the Congressional language which indicates that plant genome funding should be focused on "economically significant" crops? How will you proceed on this in fiscal year 1999?

Answer. The focus of the Plant Genome Research Program is determining and understanding the genetic structure, organization, and function of economically significant plants. Many of these characteristics are common across species lines in plants. What is unique for a specific genome can often best be learned through comparative genomics, which requires studying genomes of diverse plant species including relatives of economically significant plants. NSF has sought ideas about the choice of experimental material from the applicants, who must convince the reviewers that their projects will produce results leading to new discoveries about the genomes of economically significant plants.

In fiscal year 1999, NSF plans to continue to support the best science that will lead us closer to a complete understanding of the genomes of economically significant plants.

LIFE IN EXTREME ENVIRONMENTS

Question. What are your plans for Life in Extreme Environments (LExEn) in fiscal year 1999? We have several areas in Montana that might be considered to have "extreme environments". Do these come within the parameters of the program?

Answer. In fiscal year 1999, the LExEn program will continue to emphasize collaborative and interdisciplinary efforts to build a scientific community that can study how organisms have adapted to environments at the extremes of life, both in the present and in past geological sites. "Extreme" conditions are understood to include very high or very low temperatures, salt concentrations, acidity, pressure, or concentrations of toxic chemicals. Montana has sites with extremes of temperature and pressure. Examples would be at great depths under ground level, at nearby hot springs where scientists from Montana carry out their research, and permanent snowfields found in the alpine zone of the Rocky Mountains. LExEn-supported scientists can have their laboratories located anywhere in the United States, and the gathering of specimens that they study can occur anywhere in the world, including thermal vents on the floors of the oceans or Antarctica. A LExEn award was made to Montana State University last year for studies of microbial populations in Antarctica. (Edward E. Adams and John C. Priscu are co-principal investigators on the award.)

EPSCOR STATE PARTICIPATION IN SMALL BUSINESS INNOVATIVE RESEARCH

Question. Some of the EPSCoR money goes into NSF's SBIR program. How are EPSCoR states faring with NSF SBIR's? Can you document any improvement over the past five years? Do you know how EPSCoR states are doing in other departments and agencies?

Answer. EPSCoR spends its Small Business Innovative Research (SBIR) funds for projects that are consistent with EPSCoR's objective of utilizing the science and technology resources that reside within a state's higher education institutions on behalf of its economic development. In fiscal year 1998, EPSCoR invested approximately $1.2 million in SBIR grants. In addition, EPSCoR Cooperative Agreement awards support SBIR-related activities that help to develop partnerships between local entrepreneurs and university researchers. During the period fiscal year 1994–98, NSF SBIR awards to businesses in EPSCoR states increased. The 19 EPSCoR states received eight SBIR awards in fiscal year 1994 and nine awards in fiscal year 1995. In both fiscal year 1997 and fiscal year 1998, the number of awards doubled to 18. In addition, nine Phase II SBIR awards were made in fiscal year 1996 and fiscal year 1997. The fiscal year 1998 NSF Phase II awards are currently being processed.

Anecdotal information from NSF's EPSCoR state Project Directors regarding SBIR activities indicates that progress also is occurring in other agencies. However, the lack of a government-wide SBIR data base precludes a quantitative analysis of the performance of EPSCoR states in the SBIR programs.

POLAR RESEARCH

Question. Under your Polar Research Programs, how much do you plan to spend on Arctic research and how much on research conducted in the Antarctic? How much on logistics to support each polar program?

Answer. NSF provides over 20 percent of the total Federal support for Arctic research and logistics and approximately 95 percent of U.S. funding for Antarctic research and logistics.

The fiscal year 1999 budget request for the U.S. Arctic Research Program within Polar Research Programs is $41.16 million. This request includes $9.5 million for Arctic logistics. An additional estimated $39 million—including $21 million for the Polar Cap Observatory—is estimated for Arctic research and education by other directorates within NSF.

The fiscal year 1999 budget request includes $32.8 million for the U.S. Antarctic Research Grants Program, $108.4 for Antarctic Operations and Science Support, and $62.6 million for U.S. Antarctic Logistical Support Activities provided by DOD.

Question. I recently visited the International Arctic Research Center (IARC) located in Fairbanks. Does NSF support this concept of international cooperation for research into the Arctic?

Answer. NSF supports a broad range of international cooperation. In research related to global change, for example, the Foundation participates in many coordi-

nated international activities. As the lead federal agency for global change research, NSF has been cooperating with Japan, especially its Science and Technology Agency, to develop concepts for exploring global change research and prediction under the aegis of the U.S.—Japan S&T agreement—including through the International Arctic Research Center in Alaska and the International Pacific Research Center in Hawaii. Other agencies, such as NASA, NOAA, and DOE, are participating in this interaction. It is expected that such centers would ultimately involve broader international participation as well. As with all its activities, NSF relies on merit-reviewed proposals to support the research undertaken at such centers.

Question. With most of the world's population living in the northern hemisphere, does it make sense to dedicate more resources to exploring and understanding the impacts of human activities there?

Answer. The Arctic plays a central role in regional and global environmental issues, especially those related to climate and resource development. It also is of considerable importance from economic and national policy perspectives, since the Alaskan Arctic and adjacent areas contain significant petroleum, natural gas, and marine resources. The need for additional scientific information is matched by new opportunities for research. The fiscal year 1999 budget request for the U.S. Arctic Research Program represents an increase of 26 percent from fiscal year 1998, including studies of human dimensions of the Arctic system focused on the interaction of global environmental changes, vegetation and marine productivity, and human activity.

QUESTIONS SUBMITTED BY SENATOR STEVENS

TOTAL COST OF SOUTH POLE STATION

Question. Total Cost of South Pole Station Increases by $35.9M: Dr. Lane, let's turn to the request for South Pole Station. On page 71 of the Augustine Panel report, we find their recommendation to modernize the South Pole Station. If you follow the panel's arithmetic they seem to recommend a total modernization effort that comes in at $145 million. To pay for the project, they recommend that $20 million can be found in the temporary cut back in research during the years the station is being rebuilt. They also suggest that an additional $30 million could be found in savings to be achieved by the transition from the Navy to the Air National Guard and the civilian contractor for logistics support. The panel then goes on to call for a net appropriation of $95 million over several years for the station's modernization activity.

Last year we appropriated a total of $70 million to substantially start the modernization effort. Now if NSF was following the Augustine Panel's funding recommendations for the station—and by that I mean savings front logistics and research deferral, we would have expected to see in your budget for fiscal year 1999, a request of about $25 million to finish off the south pole project.

Well, in your fiscal year 1999 budget there is in fact a request of $22 million for South Pole Station—but you also say that beyond the fiscal year 1999 request, an additional $35.9 million will be need in fiscal year 2000 and fiscal year 2001 to complete the station.

So what we are thinking here is either: (1) the cost of the station is up—in part—because NSF is seeking to avoid the deferral of research support as recommended by the Augustine panel, (2) NSF is not expecting to realize the savings in logistics estimated by the Augustine panel; or (3) we have just seen the $145 million station increase by nearly $36 million in one year.

Can you help us understand this situation?

Answer. The Augustine panel recommended expenditure of $145 million for Antarctic facilities, including $125 million for South Pole Station. Incorporating small adjustments to the Augustine Panel numbers due to the use of updated inflation factors the estimated cost of South Pole Station Modernization is $127.9 million.

The Panel also recommended that $30 million anticipated from operational savings due to the transition from the Navy be used for Antarctic infrastructure renewal. NSF does expect to see savings, but not in the time frame envisioned by the Panel. The $30 million in savings estimated by the Augustine Panel was based on NSF's estimate of savings over the five year period fiscal year 1998–fiscal year 2002 ($44 million) offset by the cost of modifying three NSF-owned LC–130 aircraft for use by the Air National Guard (the Augustine Panel had used $14 million as the offset).

NSF's Office of Inspector General (OIG) has issued two recent analyses of estimated transition costs and savings. The estimated savings for fiscal year 1998–fiscal

year 2002, based on net savings due to the transition of functions and implementation of various OIG recommendations, is about $31 million. This would be offset by $36 million, the current estimate for the cost of modifying the three NSF-owned aircraft.

Overall, according to the OIG analyses, NSF could expect to see an annual savings of about $3 million in fiscal year 1999, rising over time to approximately $9 million. It is anticipated that such savings will be used to address infrastructure upgrades at McMurdo and Palmer Stations, as recommended by the Augustine Panel.

Question. What kind of construction management strategy do you expect to employ as you move forward on the modernization effort and how will you ensure the project remains on schedule and within budget—particularly given the difficult environmental conditions you are going to have to confront?

Answer. NSF will contract for procurement and construction management for all phases of the project, including design reviews of all drawings and specifications; conformance of the designs and procurements with established standardization criteria; assistance in establishing functional interfaces; transition from the existing to the new facilities; and systems integration. Naval Facilities Engineering Command, Pacific Division—with long-term experience in Antarctic construction projects—will select, monitor and manage architectural and engineering firms for design, post construction services, and construction inspection for the project.

Any significant changes to project requirements and conceptual design will have to be approved by the project manager, project engineer, construction manager, and a Project Oversight Committee with members representing facilities, technical, scientific, budgetary, and contractual areas, to ensure cost and schedule control.

The project cost estimate is composed of 1,200 activities. Each activity (material procurement, labor or logistics) has a projected cost that is tracked against actual expenditures. The project cost estimate used by the Augustine Panel did not include any cost contingency provision, although the Panel noted that this represents a departure from commercial practices. Any over-runs will be balanced with under-runs or scope reductions to keep the total costs within the overall project budget.

AIRCRAFT UPGRADES

Question. Dr. Lane, in your fiscal year 1998 current plan, you proposed spending $4 million to begin the reconfiguration of your LC–130 aircraft to meet Air Force safety standards. The budget we have before us requests an additional $20 million for this effort. And I suspect that we may even see the need to spend even more in fiscal year 2000 on this effort. It seems that these additional costs are related to the transition from the Navy to the Air National Guard. This Committee was under the impression that the cost of transition was expected to be fairly modest—certainly nothing like the $24 million needed this year and next. Give us some sense as to what these upgrades will accomplish in terms of safety and service life extension of the aircraft.

Answer. Ski-equipped LC–130 aircraft are the backbone of the polar air transport system for the U.S. Antarctic Program. The LC–130's also support NSF's research in the Arctic. By March 1999 the Air National Guard (ANG) will provide the sole LC–130 support to the polar regions.

Three NSF-owned LC–130's will be transferred to the operational control of the ANG, for a total ANG fleet of ten LC–130's. The NSF-owned aircraft require substantial upgrades and modifications to meet Air Force safety and operability requirements and FAA standards. The modifications include engineering, avionics, airframe, safety, propulsion, electronics and communications, equipment for black box installation, storage, and project administration. The modifications will improve safety of operations by providing identical cockpits and operating systems on all ten aircraft operated by the ANG. The service life of the aircraft will be extended, since each aircraft will be flown fewer miles annually when it is integrated into an overall fleet of ten aircraft.

The transition from the Navy to the Air National Guard and other civilian contractors is expected to yield significant savings over the long term, starting in fiscal year 2000. The aircraft modifications take approximately two full years to complete. If the anticipated savings in operations were used to fund the modifications, it would be fiscal year 2005 before all three aircraft would be available. This would seriously impact support of polar missions, including the current schedule for rebuilding South Pole Station.

ARCTIC RESEARCH

Question. Dr. Lane, in the request, you identify some $80 million—Foundation-wide—to support Arctic research and education activities. Within that amount you suggest that you are proposing to double your support for Arctic logistics. That does not seem to be the case and I would like a complete accounting of all proposed funding for both research and logistics for the Arctic. Also, please compare and contrast your role in the Arctic with your role in the Antarctic.

Answer. The Office of Polar Programs, the Directorate for Geosciences, and other directorates within the NSF have proposed to direct more than $80 million in fiscal year 1999 to address emerging opportunities and needs in the Arctic, as detailed below:

NSF ARCTIC FUNDING

[In millions of dollars]

	Fiscal year		
	1998 Estimate	1999 Request	Proposed 1999 increment
Research and Education	44.8	50.2	5.4
Logistics	4.5	9.5	5.0
Facilities [1]	5.0	21.0	16.0
Total NSF	54.3	80.7	26.4

[1] Includes Polar Cap Observatory.

Arctic emphases Foundation-wide include expansion of logistics capabilities, research platforms and facilities; extension of education and outreach activities, especially those exploring new technology venues and distance learning; increased scientific cooperation at international levels; and further development of research programs on the human dimensions of global change.

Arctic Logistics support will increase $5.0 million to $9.50 million in fiscal year 1999—more than double the fiscal year 1998 level. These funds will support research in Polar Programs and joint programs across NSF that require coordinated logistics support. In addressing the recommendations of the U.S. Arctic Research Commission in Logistics Recommendations for an Improved U.S. Arctic Research Capability (July 1997), funding will be provided in the following priority areas:

—safety upgrades for field parties (GPS, communications, shelters);
—improved scientific instrumentation for Navy Arctic submarine cruises and workshops for planning future cruises;
—tests of science systems and instrumentation during sea trials of the new research icebreaker USCGC Healy;
—upgrades to the Toolik Lake Long Term Ecological Research (LTER) site and to the Barrow Environmental Observatory in Alaska;
—extension of winter-over camp at Summit, Greenland to a year-round camp; and
—feasibility studies of autonomous vehicles and instruments for Arctic observations.

In comparing and contrasting NSF's role in the Arctic with its role in the Antarctic, several points can be made. Because both Antarctica and the Arctic are dominated by extreme cold and characterized by days to months of continuous daylight alternating with periods of complete darkness, they are apt to be thought of in terms of their similarities. However, there are also major differences which affect NSF's role.

Federal funding for research in Antarctica and the Arctic is managed differently. Three federal agencies provide funding for Antarctic research, with NSF providing approximately 95 percent of the funds. The National Science Foundation has been assigned the responsibility for budgeting and managing the entire U.S. Antarctic Program. Twelve federal agencies currently support Arctic research and associated activities, with the National Science Foundation and the National Aeronautics and Space Administration providing the largest shares. NSF is responsible for providing interagency leadership for research planning as directed by the Arctic Research Policy Act of 1984.

With a permanent population in excess of 2 million, the Arctic has settlements, villages, towns, and cities with an existing workforce and structure to provide food,

material handling, shops, and warehouses. Support for scientists working in the Arctic, including utilities and communications, is arranged largely through commercial organizations.

In contrast to the situation in the Arctic, there is no indigenous population in Antarctica. U.S. stations are established and maintained by the National Science Foundation to maintain a national presence on a continent with overlapping territorial claims and to support science conducted there. All life support as well as infrastructure and equipment maintenance—aircraft, runways, communications, passenger movement, and baggage handling—are provided by NSF.

QUESTIONS SUBMITTED BY SENATOR MIKULSKI

ANTARCTIC PROGRAM

Question. What activities does NSF carry out in the Antarctic that make the South Pole Station necessary?

Answer. Since 1970, the National Science Foundation has been charged with the responsibility for managing and budgeting for the U.S. Antarctic Program. This responsibility, which has been articulated through a series of National Security Decision and Executive Memoranda and confirmed most recently in a report by the National Science and Technology Council, requires that the U.S. maintain an active and influential presence in Antarctica, including the year-round occupation of the South Pole. The conduct of science is the principal expression of U.S. presence in Antarctica.

Occupation of the geographic South Pole is of particular geopolitical significance due to its location at the convergence of the territorial claims of six of the Antarctic Treaty nations. As a result of the singular geophysical conditions, the South Pole Station provides a unique observatory for several fields of science. Due to its location on the rotational axis of Earth, the South Pole is valuable for study of seismic and atmospheric waves. Its remoteness from population centers makes South Pole ideal for observing long-term effects of human activities on the atmosphere. Its altitude of nearly three kilometers combined with the cold dry atmosphere make it ideal for infrared and submillimeter astronomy.

For the classes of observations that benefit from being at the axis of rotation, there is no reasonable alternative. For many astrophysical objectives, the best alternative would be space or lunar-based instruments, which would be considerably more expensive. Research funded at South Pole is that which can best, and in some cases only, be done there.

South Pole Station is a hub for research on the high Antarctic plateau, as noted by the report of the Committee on Fundamental Science of the National Science and Technology Council (United States Antarctic Program, April, 1996.) Sites accessed via the station include some Antarctic Geophysical Observatories (AGO's), Antarctic Weather Stations (AWS's), and glaciology and geology projects requiring access to the continental interior. Without the station at South Pole, the report noted:

"The loss of AWS's would reduce acquisition of climate and weather data from this extremely data-sparse region and would break the continuity of the data sets, further increasing the uncertainty of global models that attempt to quantify and understand Antaractica's dominant force in global climate and climate variability * * *. The loss of the AGO's would inhibit U.S. mapping of the cusp region of the ionosphere, which complements the space physics observations of NASA, NOAA, and DOD * * * NOAA's long-term record of ozone and other greenhouse gas measurements would end. Loss of UV monitoring would be significant because the South Pole is at the center of the ozone hole. Loss of the seismic station would create a void in the global coverage (the South Pole sensor is recognized for probing remotely the Earth's interior and for monitoring earthquakes and nuclear weapons testing). Finally, the investment in AMANDA, the prototype of a new astronomy using the ice sheet to detect neutrinos, would be lost. Closure of South Pole would leave Russia as the only country with a station, Vostok, in the Antarctic interior."

Question. What is the South Pole Station Modernization project?

Answer. The present U.S. research station at the South Pole, the most remote outpost on Earth, is aging. The U.S. Antarctic Program External Panel concluded in its report of April 1997 that the South Pole Station needs to be replaced soon for economic, safety and operational reasons. The Panel's recommendation of an "Optimized Station" was the basis for Congressional discussions, leading to the fiscal year 1998 appropriation to initiate the South Pole Station Modernization (SPSM) project.

The concept of South Pole Station Modernization has evolved from engineering and architectural studies of all aspects of the station, including projected science requirements, logistics, construction limitations, and operation and maintenance of the completed facility. Studies have been conducted from 1989 through the present, during which time more than 40 reports were prepared, conclusions of which were incorporated in plans for modernization of the station. Throughout this process the following goals, consistent with U.S. Antarctic policy goals, were considered:

—Maintain a U.S. presence in accordance with national policy;
—Provide a safe working and living environment;
—Provide a platform for science; and
—Achieve a 25-year station life.

The resulting South Pole Station Modernization project is an elevated station complex with two connected buildings, supporting 110 people (46 science personnel and 64 support personnel) in the summer and 50 people (31 science personnel and 19 support personnel) in the winter. The current budget profile for SPSM is below:

[In millions of dollars]

	Fiscal year				Total
	1998	1999	2000	2001	
South Pole Station Modernization	70.0	22.0	22.4	13.5	127.9

The costs include materials, labor, logistics for transportation of all material and personnel to the South Pole, construction support, inspection, and equipment, as well as demolition and disposal. The location at the South Pole requires significant lead time for construction projects because of the long procurement cycle, the shipping constraints (one vessel per year to deliver materials for all South Pole and McMurdo Station needs), and the shortened summer period for construction at the South Pole (100 days per year). It is anticipated that the station will be completed in fiscal year 2005.

Question. Where are you in implementing the recommendations highlighted in the Augustine Report?

Answer. NSF is responding to all the recommendations that required action. For example:

—funding received in fiscal year 1997 is being used to eliminate the most critical safety and health problems at the South Pole Station, and these upgrades are currently on schedule;
—detailed plans for the recommended optimized station were developed and NSF has begun the South Pole Station Modernization project with the appropriation received in fiscal year 1998;
—operational savings are being tracked and it is anticipated that such savings will be used to address infrastructure upgrades at McMurdo and Palmer Stations;
—the fiscal year 1999 Budget Request reflects the Panel recommendation that science funding be reallocated to infrastructure needs;
—an integrated long-range plan based on realistic out-year budget expectations and the prioritization of research and facilities needs in both the Antarctic and the Arctic is being developed; and
—guidelines and procedures are being developed to incorporate science support costs into the merit review.

Question. The budget justification mentions possibly adding a $10 million cost contingency provision to the estimated project cost. Is this project on schedule and on budget?

Answer. The cost estimate of the Augustine Panel and the corresponding Budget Request for South Pole Station Modernization does not include any cost contingency. Commercial construction projects usually do include such a contingency. The contingency covers variations in cost that may arise between the design of a project and the actual award of a construction contract. The discussion in the budget justification is intended to provide information on cost contingency if commercial practices were applied to the South Pole Station Modernization project. The cost contingency would be about $10 million at this stage of the project.

The South Pole Station Modernization Project, currently in its first year, is on schedule and on budget. Any cost over-runs will be balanced with under-runs or scope reductions to keep the total costs within the overall project budget.

INFORMAL SCIENCE EDUCATION

Question. Isn't the need to increase our efforts in Informal Science Education one of the key messages you have been delivering to the science community in recent years as the NSF director?

Answer. Informal science education plays a critical role in informing our citizens about science, technology, and mathematics. It is instrumental in exciting our youth about science and motivating them to pursue science and mathematics in their schooling and, possibly, in their careers. I have, indeed, encouraged the science community to become more involved in informing our citizens through activities in our K–12 schools, contributing expertise to informal science education projects, and, more generally, reaching out by making themselves available for presentations or discussions in public forums.

Question. How do you reconcile flat funding a program that seems to be supporting the very activities you are encouraging the science community to carry out on a daily basis?

Answer. When one looks at the total education picture and prioritizes needs, support for our schools and our teachers ranks high. The flat funding request for the Informal Science Education program does not diminish in any way the importance of this endeavor, but rather is a reflection of overall priorities.

Within the planned funding for Informal Science Education, our goal is to reach as many people as possible. This is most effectively accomplished through media programs ("Bill Nye," "Reading Rainbow," "3–2–1 Contact," IMAX films), youth groups (Girl Scouts, 4–H Clubs) and Museums and Science Centers. We estimate that we reach over 100 millions citizens annually.

Our current emphasis is to involve parents and caregivers, particularly as part of the K–12 systemic initiatives; foster linkages with ongoing research through grant supplements and to continue to strengthen ties between formal and informal science education.

We are partnering with the Department of Education in public understanding activities and the mathematics initiative to reach a broader audience.

Question. Have the programs not been effective at meeting their mission? How do you measure that effectiveness?

Answer. A comprehensive, third-party evaluation of the Informal Science Education (ISE) program was recently concluded for NSF. Based on site visits, random sample surveys, and interviews with focus groups who were participants in ISE activities, the evaluation concluded that the program has:

—increased the number of youth who are excited by science, mathematics, and technology, and who pursue such activities in and out of school;
—promoted greater linkages between formal and informal education;
—stimulated parents and other adults to be informed about science, mathematics, and technology education;
—encouraged parents to support their children's science and mathematics in the home and in school;
—improved the science literacy of children and adults; and
—had a broad and long-term impact on the informal science education field.

Projects supported by the Informal Science Education program, increasingly, are developing and implementing new summative evaluation strategies that will assess the impact the projects are having on the children and adults they reach.

Also, a Committee of Visitors recently came to NSF and provided a review of operations under the Informal Science Education program. The preliminary report of the Committee gives high ratings to the program and cites many of its positive achievements.

Question. What is NSF doing to integrate research and education so that our college graduates are better prepared to compete in today and tomorrow's job market?

Answer. NSF is increasingly proactive in encouraging integration of research and education as a means of strengthening the science, mathematics, and engineering (SME) preparation of U.S. college graduates. Integral to NSF's strategy was the October 1997 revision of merit review criteria that signals potential Principal Investigators (PI's) and reviewers of the importance of linking research and educational responsibilities. A growing number of NSF programs and activities explicitly encourage faculty to integrate research and education, e.g., an education plan is required for proposals submitted to the Faculty Early Career Development (CAREER) program that supports promising young faculty. The Integrative Graduate Education and Research Training (IGERT) program provides financial support while affording graduate students numerous career opportunities through their involvement in cutting-edge interdisciplinary research in academic, industrial, federal laboratory, and international settings.

The Foundation's systemic reform of undergraduate mathematics, chemistry, and engineering curricula aim to strengthen the preparation of SME majors and non-majors alike, and to improve preparation for a workplace increasingly dependent on science and technology. Reform efforts under the Collaboratives for Excellence in Teacher Preparation (CETP) program are breaking down barriers between SME disciplinary departments and schools of education at universities producing K–12 science and mathematics teachers. In addition, NSF continues to encourage involvement of undergraduates in research at NSF's Science and Technology Centers, the Engineering Research Centers, and the Materials Research Science and Engineering Centers—adding teamwork and real-world problem solving skills to student educational experiences. These centers enable faculty and students to make connections with industry, as does the Grant Opportunities for Academic Liaison with Industry program. The Research in Undergraduate Institutions and Research Experiences for Undergraduates programs also bring research experiences directly into the education of undergraduates.

Question. What NSF programs seem to work effectively, and what lessons have been learned from programs that weren't as effective in preparing students to compete?

Answer. The Foundation's strategic goals call for high quality, advanced training of scientists, mathematicians, and engineers as an investment in the nation's productivity for the 21st century. This requires innovative strategies for improving undergraduate and graduate education. We have learned from past activities that truly meaningful undergraduate and graduate science, mathematics, engineering and technology (SMET) education require classroom instruction combined with the real-world challenges posed by a research environment.

Third-party external evaluations of undergraduate curriculum and laboratory programs indicate successful achievement of improvements in faculty practices and student learning outcomes. "Evaluation of the Division of Undergraduate Education's Course & Curriculum Development Program," (The Network, Inc., 1997) found increased student understanding of scientific approaches to problems and their increased competence in applying concepts, principles or theories; in using methods or equipment; and in working in teams. "A Report on an Evaluation of the National Science Foundation's Instrumentation and Laboratory Improvement Program," (NSF 98–33) evidenced the program's impact on improved courses and research opportunities for students. Both evaluations made recommendations related to the reform of undergraduate education through adaptation and implementation of proven curricula, laboratory instructional models, and related faculty enhancement. These recommendations led to the programmatic enhancements incorporated into the successor, Course, Curriculum, and Laboratory Improvement (CCLI) program. CCLI focuses on the adaptation and implementation of proven curricula and laboratory instructional models, related faculty development, as well as innovative instructional strategies that use research as a vehicle for strengthening learning.

The Advanced Technological Education (ATE) program is designed to improve education (at both the secondary and two-year college levels) of the Nation's future high-technology technician workforce to enhance global competitiveness. In addition, NSF has developed programs that recognize and foster dissemination of effective strategies for integrating research and education.

At the graduate level, the NSF Integrative Graduate Education and Research Training (IGERT) program seeks to develop activities that produce a diverse group of new scientists and engineers who are well-prepared for a broad spectrum of career opportunities. IGERT emphasizes multi-disciplinary research themes within a framework for the integration of research and educational activities. Importantly, IGERT requires that institutions offer interdisciplinary training experiences relevant to both academic and non-academic settings (e.g., industry, national laboratories). In addition, NSF is aiding the dissemination of creative models of undergraduate education by acknowledging exemplary efforts for combining research with high-quality education activities through the Awards for the Integration of Research and Education at Baccalaureate Institutions (AIRE) and Recognition Awards for the Integration of Research and Education (RAIRE).

U.S LEADERSHIP IN RESEARCH AND TECHNOLOGY

Question. Can the NSF justify a 10 percent increase for fiscal year 1998 to fiscal year 1999?

Answer. NSF's investment portfolio is intended to set the stage for a 21st Century research and education enterprise that is focused on national priorities. As noted in the President's Budget, several studies show that scientific discovery and technological innovation have been responsible for at least half of the nation's productivity

growth in the last 50 years, generating millions of high-skill, high-wage jobs and substantially improving the quality of life. (Budget of the United States Government, fiscal year 1999, p. 93.) Conservative estimates of the social rate of return from academic research exceed 20 percent, based on overall effects on society (Mansfield, E. 1995. University Research and Industrial Innovation: An Empirical Study of Linkages. AAAS). The Federal government provided about two-thirds of the academic research cited. A more recent, ground-breaking study funded by NSF (Narin F. et al., 1997. The increasing linkage between U.S. technology and public science. Research Policy 26 pp 317–330) also found a rapidly growing linkage between industrial innovation and scientific research.

NSF contributes to building a strong foundation for progress in the 21st century through its support of research and education projects that meet the highest standards of excellence in competitive merit-based selection processes. Through appropriate allocation of resources and design of programs and competitions, NSF ensures that national priorities are addressed.

NSF continues to receive many more proposals that it deems worthy of funding than it has resources to support. The success ratio of competitively reviewed proposals is about one in three. While NSF awarded 10,000 new awards last year, an additional 7,500 proposals, requesting about $900 million, were evaluated as very good or excellent, but were not funded.

In addition, in order to fund as many worthy projects as possible, NSF often provides lower levels of funding for successful proposals than it would if increased funding were available. NSF would like to increase the award size and duration of its average award. The average award duration has been steadily declining for the past five years.

Moreover, NSF intends to continue the momentum and development of its three theme areas, Knowledge and Distributed Intelligence, Life and Earth's Environment, and Educating for the Future.

Question. Has this increase been targeted toward certain directorates and programs?

Answer. NSF requested increases for fiscal year 1999 have been targeted in connection with its three major themes, Knowledge and Distributed Intelligence (KDI), Life and Earth's Environment (LEE) and Educating for the Future (EFF). These themes are broadly integrated throughout the Foundation's directorates and programs. They represent areas of focused investment which combine exciting opportunities in research and education with immense potential for benefits to society.

Question. How can you convince the committee that the dollars would be spent wisely and efficiently?

Answer. NSF's investment portfolio is intended to set the stage for a 21st Century research and education enterprise that is focused on national priorities. Since its inception, NSF has been committed to making merit-based investments in research and education that meet the highest standards of excellence. We believe the establishment of NSF's Government Performance and Results Act (GPRA) strategic plan, and the incorporation of its attendant performance plan and report, will help ensure that NSF is continuing to invest wisely and will enable us to identify improvements in our decision-making. In addition, NSF continues to play a leading role in government-wide initiatives to clarify and simplify research administration, with particular emphasis on Electronic Research Administration (ERA), while simultaneously maintaining proper accountability of federal funds.

Question. What is the estimated return on federal investment in R&D?

Answer. As noted in the President's Budget, several studies show that scientific discovery and technological innovation have been responsible for at least half of the nation's productivity growth in the last 50 years, generating millions of high-skill, high-wage jobs and substantially improving the quality of life. (Budget of the United States Government, fiscal year 1999, p. 93.)

Conservative estimates of the social rate of return from academic research exceed 20 percent, based on overall effects on society (Mansfield, E. 1995. University Research and Industrial Innovation: An Empirical Study of Linkages. AAAS). The Federal government provided about two-thirds of the academic research cited. A more recent, ground-breaking study funded by NSF (Narin F. et al., 1997. The increasing linkage between U.S. technology and public science. Research Policy 26 pp 317–330) also found a rapidly growing linkage between industrial innovation and scientific research. The study examined patents in key areas of industrial technology, including biomedicine, chemistry, and electrical components. It found that nearly three-fourths of the research papers cited by U.S. industry patents are what the study termed "public science"—papers authored at universities, government laboratories, and other non-profit centers. Furthermore, the research underlying the cited papers was found to be heavily supported by NSF and other federal agencies. Federal in-

vestment in R&D continues to provide a critical seedbed for economic growth and for overall growth in job opportunities.

Question. If the tobacco settlement is not forthcoming, what types of reductions in program support are you prepared to make and where?

Answer. The priorities in the Foundation's fiscal year 1999 budget request were developed through a planning process that identified new opportunities as well as ongoing core activities from which the new opportunities emerge. If NSF does not receive the increase requested, the relative priorities in the budget would remain, with emphasis on the interdisciplinary areas encompassed in the themes of Knowledge and Distributed Intelligence, Life and Earth's Environment, and Educating for the Future. However, it would not be possible to increase the average grant size or the duration of grants, which would make the system more efficient or to move as aggressively as we feel appropriate in these important thematic areas.

STRATEGIC INITIATIVES

Question. Can you describe how this year's budget will help advance science and engineering across all fields of disciplines?

Answer. All of NSF's programs are aimed at achieving the Foundation's outcome goals. These goals as stated in NSF's GPRA Strategic Plan, are:

—Discoveries at and across the frontier of science and engineering;
—Connections between discoveries and their use in service to society;
—A diverse, globally-oriented workforce of scientists and engineers;
—Improved achievements in mathematics and science skills needed by all Americans; and
—Timely and relevant information on the national and international science and engineering enterprise.

Activities in the themes of Knowledge and Distributed Intelligence (KDI) Life and Earth's Environment (LEE) and Educating for the Future (EFF), like all of NSF's efforts, are aimed directly at these goals.

In the early Spring 1996, the Director, Deputy Director and NSF senior managers met for two days. The purpose of these intense sessions was to identify and establish the research priorities for the fiscal year 1998 budget request, as well as future budget requests. The focus of the discussion was on which areas of science and engineering were truly on the verge of major discoveries. During these two days each Assistant Director took turns presenting the emerging opportunities within their disciplines that warranted greater emphasis in NSF's funding strategy. From these discussions emerged areas such as "knowledge networks." "human-centered computer systems," "intelligent manufacturing," complex biological and human systems, complex modeling, data mining and learning and cognition, which eventually came under the umbrella of KDI. LEE emerged from a larger discussion on the environment and the scientific quest for understanding the interaction of physical, biological and human activities. EFF reflects NSF's strong emphasis on integration of research and education and our systemic approach to K–12 mathematics and science education.

The themes reflect the Foundation's mission to support basic science and engineering research, and to promote science and engineering education at all levels. The activities supported under these themes are integrated into programs across the Foundation and provide a solid framework for the Foundation's investment strategy. Many of today's most promising discoveries are made at the intersection of different disciplines, as is reflected in these themes. We expect these cross disciplinary efforts to provide a foundation for enhanced collaboration and new approaches to the conduct of research and education that will benefit all NSF programs.

In addition, the Foundation intends to make significant investments in other Foundation-wide efforts that we believe are important elements in the support of research and education. These efforts include such activities as Arctic Research and Education, Major Research Instrumentation and Plant Genome Research.

Question. How will setting up this year's budget in themes help you capitalize on opportunities in research and education and what are the benefits to society?

Answer. Because activities organized under these three themes, Knowledge and Distributed Intelligence (KDI), Life and Earth's Environment (LEE) and Educating for the Future (EFF), are thoroughly integrated into programs across the Foundation, we expect the enhanced efforts within these themes will strengthen all of NSF programs, and provide a foundation for enhanced collaboration and new approaches to the conduct of research and education.

NSF expects that investments made within the themes will have long-term significant benefits for society. Basic research is the driver of progress in many industries—for example, communications, electronics, and materials manufacturing—and

over the longer term, contributes in a variety of ways to economic competitiveness and quality of life.

NSF expects its investment in KDI to have a substantial impact on how we learn, work, and create. For instance, many of the tools and techniques developed through research supported under the theme of KDI should have broad application in education, business, and industry. Examples include tools that enable users to search huge depositories of data for critical pieces of information; techniques for transforming a stream of data into a visual format; methods for simulating behaviors of complex systems from minimal amounts of data; and libraries in digital form and networks that enable all people to access them wherever they may be. All have obvious relevance beyond the realm of basic research. Indeed, many KDI projects involve collaborations between basic researchers and industrial or educational partners.

Much of the research supported under KDI also speaks directly to near-term societal needs, issues, and opportunities related to the information revolution. For example, among the topics currently emphasized in the KDI initiative are:

—Enhancing the accessibility and utility of on-line information (e.g., data-mining techniques, access for persons with disabilities);

—Ethical, social, political, legal and economic implications of the information revolution (e.g., privacy, confidentiality, reliability of data; disparities among racial, ethnic, and cultural groups in use of and benefit from information technologies); and

—Improving education through advances in educational technologies (e.g., intelligent tutors), and in understanding of learning processes.

Activities under the theme of LEE are also expected to provide benefits:

—Research In Engineered Systems may provide benefits in the areas of hazard mitigation, biological remediation of degraded ecosystems, impact-reducing closed-cycle manufacturing, and the development of advanced technology for detection and monitoring.

—Life In Extreme Environments (LExEn) research may reveal fundamentally new biochemical systems and associated genetic forms that may open new doors for bioengineering and industrial chemistry;

—Global change research deepens our understanding of the planet's climate, oceans, and polar region, and assists in predicting long term climate and environmental change; and

—The environmental observatories include simultaneous cross disciplinary measurement of environmental processes, helping to identify and mitigate problems like the Hantavirus outbreak in New Mexico and Pfiesteria-caused fish kills In the Chesapeake Bay watershed.

Over a longer time frame, increased understanding of ecosystems and human impact on the environment may result in sustainable natural and engineered systems, stabilization of at-risk species, and a significant reduction in the loss of biological diversity. Education efforts within LEE will contribute to increased public awareness of scientific issues associated with the environment.

The theme of EFF includes a range of programs supporting innovative approaches to educating our citizens to live and work in a technology driven society. EFF focuses on developing new knowledge and strategies to strengthen the teaching and learning of science, engineering, mathematics, and technology at all grade levels, from kindergarten through early career development. The expected benefits of EFF include:

—Increased application of learning technologies to K–12 education, making high quality education more available to all communities;

—Strategies and models for reform of K–16 education, with special emphasis on K–8 mathematics. These strategies are expected to promote enhanced student performance in science, engineering, mathematics and technology at all levels; and

—Enhanced worker productivity through the development of improved problem-solving skills and a smoother transition from school to the workplace.

ADVANCED COMPUTING

Question. The four national supercomputer centers under NSF have undergone a "re-competition" phase that has reduced the number of these centers. Has this change made for a more efficient use of NSF funding?

Answer. The Partnerships for Advanced Computational Infrastructure (PACI) program, which replaced the NSF Supercomputer Centers program in fiscal year 1998, has two partnerships—the National Computational Science Alliance (NCSA) and the National Partnership for Advanced Computational Infrastructure (NPACI). Each has multiple sites which provide resources to the national academic science and en-

gineering community. In NCSA, computing resources at the leading edge site at the University of Illinois, Urbana, and partners Ohio State, Argonne National Laboratory and Maui High Performance Computing Center, are allocated to the user community. At NPACI, the leading edge site at University of California, San Diego, and partners Caltech, University of Texas (Austin), University of Michigan and Berkeley provide resources.

PACI represents a more efficient use of NSF funds, because the large computers are now concentrated in two locations instead of four. The resulting savings in operational costs of more than $10 million per year are being invested in software infrastructure critical to make effective use of parallel architectures.

Question. What types of research activities are now underway at these supercomputer center sites?

Answer. Research underway at the Partnerships for Advanced Computational Infrastructure (PACI) partnerships is supported by NSF and other agencies. There is considerable work on the computer science areas of parallel tools, data mining and visualization, as well as on applications in the areas of physics, chemistry, geophysics, biology, and engineering. Research problems range from astrophysics and molecular conformation to environmental modeling.

Question. Would you give us some sense as to how and why the new supercomputer initiative differs from the previous NSF advanced scientific computing program?

Answer. The Supercomputer Centers program consisted of four centers while the new PACI program is a distributed partnership involving about 100 institutions with the two leading edge sites. While provision of computing resources to the science and engineering research community is still a primary function, the charter of PACI goes beyond the Supercomputer Centers program and specifically emphasizes the need for application of advanced computer science research to improve the efficiency of utilization of modern parallel computer architectures. Thus, many of the partner institutions have groups of computer scientists applying the results of their research to large scale computation.

PACI also involves two other new components, application technology, and education, outreach and training (EOT). The members of the application teams were chosen for their expertise in utilizing parallel architectures and are tasked with making their techniques available to a larger community. The EOT program, which is a joint effort of the two partnerships, responds to the need for additional human resources in computational science and engineering.

ACADEMIC INFRASTRUCTURE

Question. Is $50 million for instrumentation sufficient? Does NSF plan to continue supporting this effort in fiscal year 2000?

Answer. Proposal pressure for major research instrumentation awards has been fairly stable over the life of the program, with approximately 400 to 500 proposals each year. MRI funding rates average about 20 percent. In addition to the MRI program, NSF supports instrumentation through more than 15 different instrumentation programs Foundation-wide, as well as through research awards. In fiscal year 1997, funding for MRI and other instrumentation programs totaled more than $200 million.

NSF expects to continue to support the Major Research Instrumentation Program in fiscal year 2000.

GOVERNMENT PERFORMANCE AND RESULTS ACT

Question. How do you go about assessing research progress in a realistic or meaningful way if your main objective is to support discoveries at and across the frontiers of science?

Answer. The objective to support discoveries at and across the frontiers of science is one of a set of outcome goals that NSF has established to guide its investment decisions and assessment processes. As described in NSF's fiscal year 1999 GPRA Strategic and Performance Plans, NSF will rely on external panels of experts to apply their experience and judgment in assessing the progress of NSF-supported research and education activities. These assessments will use a qualitative approach in determining the progress in all areas of research investments and will allow for a long time horizon for research results to be reported and captured for assessment. These assessments in turn will help NSF's staff of scientists, engineers, and educators to strengthen the agency's investment portfolio.

In addressing research results, NSF took advantage of the GPRA provision for an alternate, qualitative format for performance goals. In spite of the rather unusual character of the resulting GPRA strategic and performance plans, they have been

ranked highly by responsible Congressional staff, ranking third and seventh, respectively, among the twenty-four agencies ranked.

Question. What efforts are underway now that the performance plans have been issued by all agencies, to assess coordination of annual efforts in such crosscutting issues as global change, computer networking and education and training technologies?

How are you addressing crosscutting factors such as budget cuts by other funding organizations?

Answer. The four areas listed are all under consideration by interagency working groups (IWG's) established under the auspices of the National Science and Technology Council. These IWG's establish the objectives of such cross-cutting interagency programs and consider the appropriate role for participating agencies. They are now turning their attention to issues more directly linked to performance as well. They will need to consider how to modify performance goals in cases where one or more agency is not able to make planned contributions. For other areas, NSF is in constant dialogue at the staff level with various agencies that have crosscutting issues. NSF relies heavily on its merit review system to continue to support the most advantageous research opportunities for the country. NSF is aware of budget cuts at other agencies and considers how these cuts will affect Foundation programs.

NSF-NASA COORDINATION/PLANNING FOR ORIGINS

Question. Have the NSF and NASA efforts in Astronomy been coordinated to prevent duplicative efforts? How has this coordination taken place and who is or was involved.

Answer. Federal support for astronomical research is provided primarily by NSF and NASA. NSF supports ground-based research, while NASA supports space-based investigations. NSF and NASA have jointly supported a number of research activities, particularly in the area of planetary astronomy, and staff from the two agencies meet as needed to ensure coordination of research support to avoid unnecessary duplication. During the past few years, the two agencies have jointly supported activities on Comet Shoemaker-Levy, Comet Hyakutake, Comet Hale-Bopp, the "Origins" initiative, and currently, in comparative investigations of planetary atmospheres. In the case of the cometary and planetary atmospheres initiatives, NSF and NASA carried out joint solicitations for proposals as well as joint reviews to ensure the coordination of ground-based and space-based research.

With respect to "Origins," there has been active contact and cooperation between the two agencies. Because NASA's "Origins" program pre-dated NSF's activities in this area, NASA generally takes the lead in ensuring coordination for origins research. NSF and NASA have jointly supported a number of "Origins" activities, and staff from the two agencies meet as needed to ensure coordination of research support to avoid unnecessary duplication. NSF staff take the initiative to ensure coordination when new NSF initiatives have the potential to overlap with activities supported by NASA.

NSF requires that investigators who submit proposals indicate whether the proposal has been submitted to another agency. If this is so, NSF Program Directors contact their sister-agency counterparts to ensure that there is no duplication of effort. Further, NSF Program Directors are often asked to serve on NASA advisory and review groups, and a complementary situation exists for NASA Program Directors. This serves as another means to ensure that Program Directors remain current about activities at both agencies. Finally, NSF staff periodically attend administrative meetings at NASA (and vice-versa) in order to ensure coordination of efforts without duplication.

Question. Does NSF's outyear planning estimates for the Math and Physical Sciences (MPS) Directorate assume any funding in optical astronomy for the Origins Initiative over and above the base funding for astronomy? If so, please explain? If not, please advise the Committee on why this has been given a relatively lower priority relative to other NSF programs, particularly with MPS.

Answer. Outyear planning within the MPS Directorate does assume funding in optical astronomy for the "Origins" Initiative over and above the base funding provided for astronomy. Indeed, such planning has been highlighted in the MPS budget submission for fiscal year 1999 and extends well beyond the area of optical astronomy. Within astronomy, support for the operations of the Gemini Observatories and for NSF's interdisciplinary studies of "Life in Extreme Environments" will contribute to the advance of origins research. Further, a primary goal of "Origins" is the detection of planets around other stars, and MPS is particularly interested in fostering and supporting the development of new techniques in high resolution optics, as

they are fundamental to the detection of other planetary systems. For example, within the Advanced Technologies and Instrumentation program, funding above the base level will be provided for adaptive optics and for optical/infrared interferometry at university and national optical observatories.

PROGRAMS FOR UNDERREPRESENTED GROUPS

Question. What is the status of the minority education programs funded last year off the ground?

Answer. A special initiative for Historically Black Colleges and Universities (HBCU's) was begun in fiscal year 1998. This activity places particular emphasis on innovative strategies (e.g., strengthened research infrastructure and research-based education) with potential for significantly increasing baccalaureate and doctoral degree production in science, engineering, and mathematics by underrepresented minorities. The initiative is funded at $6 million. Three awards are anticipated in fiscal year 1998 at a level of up to $2 million each for a duration of three years. The program guidelines were distributed on April 2, 1998, with a deadline of June 15, 1998 for receipt of proposals (14 proposals have been received). The evaluation process for the most meritorious HBCU proposals is now occurring.

Another minority education activity that was initiated in fiscal year 1998 is the Minority Graduate Education (MGE) program. The MGE program seeks to significantly increase the number of African American, Hispanic, and Native American students receiving doctoral degrees in the sciences, mathematics, and engineering (SME). The lack of role models and mentors in the professoriate constitutes a significant barrier to producing minority SME graduates, and NSF is particularly interested in increasing the number of minorities who will enter the professoriate in these disciplines. For fiscal year 1998, the program is funded at $5 million, and it is expected that up to eight MGE awards will be made at $500,000 annually, with duration of up to five years. Proposals must be submitted by July 15, 1998. In addition, up to ten supplements will be made to Alliances for Minority Participation (AMP) projects for development and/or enhancement of activities that will support achievement of MGE program goals.

Question. What is driving your decision to flat-fund your minority research programs?

Answer. Minority institutions participate in programs across NSF, not just in "minority research programs." NSF continually seeks out opportunities to increase their involvement. For example, one major NSF activity focusing on minority research programs is the Centers of Research Excellence in Science and Technology (CREST). In fiscal year 1998, CREST continues activities in 12 Centers, with a competition for those completing their awards. While the CREST projects are making significant achievement in this arena, it is the intent of the NSF to provide more research support to minority-serving institutions from the formation of collaborations between CREST and the NSF-supported Science and Technology Centers (STC's), Engineering Research Centers (ERC's) and Materials Research Science and Engineering Centers (MRSEC's). Although the funding level of CREST is flat, the process of providing additional collaborative research dollars to these projects from other research programs at NSF has been achieved. In fiscal year 1998, NSF initiated a new, cross-directorate effort, Collaboratives to Integrate Research and Education (CIRE), to establish long-term research and education relationships between minority-serving institutions and NSF-supported facilities and centers. In addition, the Historically Black College and University (HBCU) initiative begun in fiscal year 1998 focuses on research infrastructure at HBCU's as well as faculty and student research experiences.

Question. Describe what plans and benchmarks NSF has in place to increase the number of women and minorities in the science and engineering field?

Answer. All NSF programs respond to the need for increasing participation of underrepresented groups (i.e., women and minorities) in science and engineering. Major programming efforts specifically targeted on women include: the Program for Women and Girls (PWG); Professional Opportunities for Women in Research and Education (POWRE) program; and graduate fellowships for women in engineering and the computer sciences. The overarching approach to these program activities involves setting quantitative goals and objectives, and providing comprehensive strategies across all educational levels—precollege, undergraduate, graduate, and postgraduate. Staff for the PWG program are currently working to establish quantitative benchmarks for women and girls. While PWG affects more than 17,000 girls annually, there has not been enough time to do a longitudinal study on how many of these participants choose science and engineering careers, and how many go on to college in these disciplines. However, PWG is now undergoing an evaluation by

an external contractor, and we should have answers to several benchmark issues from that study.

For minorities, the Alliances for Minority Participation (AMP) program is the major program activity for increasing baccalaureate graduation rates among minorities and, hence, to increase the size of the pool of interested and academically qualified minority students eligible for graduate study in science, mathematics, engineering, and technology (SMET). AMP projects are now producing annually over 18,000 minority students who earn baccalaureate degrees in SMET fields. By the year 2000, the program expects an increase in SMET degree production to over 21,000 graduates. At the turn of the century, it is anticipated that educational improvements supported by AMP will enhance SMET course opportunities for nearly 200,000 students per year. At the graduate level, the new Minority Graduate Education (MGE) program, instituted in fiscal year 1998, seeks to significantly increase the number of African American, Hispanic, and Native American students receiving doctoral degrees in the sciences, mathematics, and engineering. A longitudinal study, as well as indicator development related to the Government Performance and Results Act (GRPA), is being designed as part of the MGE evaluation effort.

NSF also supports efforts to improve the research infrastructure of post-secondary institutions through the Centers of Research Excellence in Science and Technology (CREST) program and the new Historically Black Colleges and Universities (HBCU) initiative. Programs such as CREST and HBCU can increase the likelihood that minority students will successfully complete undergraduate and graduate education, and pursue careers in SMET fields. As part of NSF's activities under GPRA, the agency will measure the impact on recruitment, retention and graduation rates.

Question. Could NSF expand the partnerships to develop resource linkages designed to promote and develop opportunities for women and minorities in the science and engineering fields? (i.e., partnerships with other federal agencies, state and local governments, universities).

Answer. The NSF views partnering as an integral component for successful projects in a number of programs for underrepresented groups. Partnerships among project collaborators are a serious component to all awards for underrepresented groups in science, mathematics, engineering and technology (SMET) fields. Principal Investigators are required, for example, in programs such as the Alliances for Minority Participation (AMP) and the Comprehensive Partnerships for Mathematics and Science Achievement (CPMSA) to reach out and establish linkages with universities, local and/or state governmental agencies, community groups, etc. in order to leverage resources for a successful intervention strategy.

For minorities, NSF has an on-going partnership with the National Institutes of Health (NIH). This partnership was established through a Memorandum of Understanding (MOU) between the two agencies. NSF and NIH combine resources to support an effort at forging collaborations between school districts with significant minority enrollments and colleges and universities in order to do research on teaching and learning. Under the auspices of the NSF–NIH MOU, there are 12 Centers of Excellence in Research, Teaching, and Learning (CERTL) projects that are connected to the CPMSA effort. Plans are underway to determine what other program activities would complement this particular effort. In addition to NIH, other partnering federal agencies include the National Aeronautics and Space Administration (NASA), and the Department of Education.

K–12 STUDENT ACHIEVEMENT

Question. What causes U.S. students to score lower than their foreign peers on science tests?

Answer. The 1995 Third International Mathematics and Science Study (TIMSS) reported student test scores in both mathematics and science for grades 3–4 and 7–8. At grade 12, scores were reported for general students and physics students. At the lower grades, science scores of U.S. students were among the highest in the world. In middle school grades, science scores were about average for the 41 participating countries. At the high school level, however, science scores were among the lowest in the world of the 16 countries that completed the study at that grade. There is some evidence as to the reasons for the drop-off in performance from the study of curriculum materials conducted by William Schmidt of Michigan State University in conjunction with the TIMSS testing. Although U.S. students begin their schooling with higher levels of knowledge in science, their weak performance at the high school level relative to their foreign peers might be due to an unfocused middle school science curriculum and less high school science study. A diffuse science and mathematics curriculum beyond the elementary level reduces their relative advantage as they proceed through the system. We will have a clearer measure of what

happens between elementary and middle school when the TIMSS study is repeated for the 8th grade in 1999.

Question. We thought that NSF programs over the last ten years would help our students learn better about math and science. What is wrong with NSF's and other agencies' science education programs if they don't help our students learn better and perform at higher standards?

Answer. We believe that NSF programs and those of other Federal agencies, working together with state and local educational organizations, are having a positive effect. U.S. students are performing at higher standards today than they were 10 years ago. The change is slow but is occurring at faster rates in some parts of the country than others. Test scores for the National Assessment of Educational Progress (NAEP) in the past 10 years have shown general increases for much of the population in science and mathematics. Recent state-by-state test scores in mathematics have shown especially significant increases in states such as Texas, Connecticut, North Carolina, Michigan, Indiana, and Hawaii. Bringing together the ingredients for improved achievement by our students is a lengthy process. As a start, we need agreement on high standards for what students should know and be able to do; instructional materials that reflect those standards; and teachers who have the subject mastery and pedagogical skills to teach effectively. We also need supportive school systems and assessment processes that incorporate standards.

NSF programs help put these necessary elements of improved achievement in place. For example, in the early 1990's we supported development of instructional materials in mathematics and science, with a focus on the early grades. Those materials, after extensive field testing that established their potential to improve performance, have now reached many schools and students. Middle school and secondary materials are in process, and gradually finding their way into schools. NSF has coupled this with teacher enhancement and attention to system-wide issues that affect performance.

Both the TIMSS results and third-party evaluation of NSF programs show the greatest improvements in student achievement at the early grades. The accumulated deficits of prior schooling, make it more difficult to make significant gains at the secondary level. We believe that the planned TIMSS testing of 8th grade students in 1999 will give us better information on whether the gains made in the primary years can be sustained through the middle schools.

Question. What programs are in place in NSF to address the need for improvement as shown by the results of TIMSS.

Answer. For the most part, the Third International Mathematics and Science Study (TIMSS) confirms results of tests from the 1960's and 1980's—U.S. students are not among the top performers in mathematics and science achievement. Tests that track student achievement over time indicate, however, that U.S. student performance has improved. For example, the National Assessment of Education Progress (NAEP), a test constructed for the U.S. Department of Education (DoED), has shown improvements in mathematics performance over the last two decades. These changes, however, are not large enough to improve radically our ranking vis a vis other countries.

An NSF-supported analysis of science and mathematics curricula, which was designed to help explain TIMSS results, found that U.S. textbooks cover many more topics and fail to have the coherence and depth of coverage that characterize texts used by high performing nations. U.S. performance also suffers, in part, from low expectations for the vast majority of our students and from the general belief that science and mathematics are only for the gifted. Relevant scientific, mathematics, and related education communities developed the national mathematics and science standards under the auspices of the National Council for Teachers of Mathematics (NCTM) and the National Academy of Sciences (NAS), respectively. These standards should help in both regards, providing guidelines to states and localities on what children should know and be able to do at various grade levels.

Over the past eight years, NSF has placed significant emphasis on developing inquiry-based, K–12 science and mathematics instructional materials that are aligned with standards and that hold promise for significantly improving classroom instruction. The published materials are now available for widespread use at all grade levels. Student achievement data from field test sites and from those NSF systemic reform projects that are implementing these materials demonstrate the potential of these materials for improving performance of all students. This potential can only be realized, however, if the materials are accompanied by strengthened content and pedagogical training of teachers (both pre- and in-service). Moreover, because student assessments signal what is a valued learning experience, high stakes tests must be aligned with the standards embodied in such materials. Education programs, grades K–12, promote development and implementation of systemwide edu-

cation reform and standards-based instructional materials and related performance-based assessments, as well as effective models of systemwide education reform, professional development, and innovative applications of instructional technologies.

Question. Do you feel the need to restructure any of your existing efforts, especially at the precollege level?

Answer. K–12 education poses an enormous challenge to the nation. While primary responsibility rests with states and localities, the entire Federal investment-representing roughly seven percent of total K–12 funding-can have a significant effect on the enterprise. The Foundation has viewed its role in K–12 science and mathematics education as one of providing vision; leadership; resources (e.g., curricula, instructional materials); effective strategies for systemic reform, teacher professional development, applications of learning technologies; and research on teaching and learning. The joint challenges posed to the Nation by the TIMSS results, and to Federal agencies by the Government Performance and Results Act (GPRA) and fiscal realities, have indeed caused us to look at our comprehensive set of program activities. We are currently in the process of assessing program priorities in light of new challenges and emerging opportunities.

CONCLUSION OF HEARINGS

Senator BOND. I apologize, but because of the voting schedule, we are going to have to recess the hearing. But our thanks to all of you. We look forward to working with you. And we wish you the best.

And thank you for your service, Dr. Zare. Thanks for what you have done in your previous job. Best wishes.

And, to you, Dr. Lane, Dr. Jones, and Dr. Clutter, thank you very much.

The hearing is recessed.

[Whereupon, at 11:05 a.m., Thursday, May 7, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT AND INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1999

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

NONDEPARTMENTAL WITNESSES

[CLERK'S NOTE.—The following testimonies were received by the Subcommittee on VA, HUD, and Independent Agencies for inclusion in the record. The submitted materials relate to the fiscal year 1999 budget request.

ENVIRONMENTAL PROTECTION AGENCY

PREPARED STATEMENT OF BRUCE DELANEY, MAYOR, CITY OF GAINESVILLE, FL

THE SWEETWATER BRANCH/PAYNES PRAIRIE STORMWATER PROJECT

Mr. Chairman: On behalf of the City of Gainesville, Florida I appreciate the opportunity to present this written testimony to you today. The City of Gainesville is seeking federal funds in the fiscal year 1999 VA–HUD Appropriations bill, in order to assist our efforts to protect the Florida aquifer from stormwater runoff. In particular, we are hopeful that the Subcommittee will provide the City with $2 million as an EPA Special Assistance Grant.

In Gainesville, the Sweetwater Branch basin contains approximately 1,710 acres and is located in the southeast central portion of the City. The outfall from this basin discharges into Paynes Prairie, a state owned preserve and park system, which eventually flows into the Alachua Sink, a natural sink hole that drains directly into the Florida aquifer. This aquifer provides the majority of drinking water to Florida's residents and has a direct impact on Florida Everglades.

The Sweetwater Branch drainage basin contains urban, commercial, industrial, and residential area stormwater runoff. Because the branch runs through some of the oldest portions of Gainesville, most stormwater runoff is directly discharged into the Branch with very little flooding or pollution removal treatment. The runoff has the potential to affect threatened and endangered wildlife such as the Bald Eagle, the Woodstork, the Florida Sandhill Crane, and the Southeastern American Kestrel. In addition, many domestic water wells are used to obtain water from surficial and intermediate aquifers in the area. In summary, the situation has created a concern among environmentalists, business leaders, and concerned citizens throughout the region that Paynes Prairie and the Florida aquifer are being compromised.

With this in mind, the City of Gainesville, Alachua County, St. Johns River Water Management District, Florida Department of Environmental Protection and local citizens are all seeking a comprehensive ecosystem management solution to the problem of stormwater runoff from downtown entering Sweetwater Branch, Paynes Prairie, and the Alachua Sink. The project devised by these groups would reduce or eliminate the sediment, debris, nutrients and general pollutants currently being discharged. Current projections are that the project would consist of the following three components: the purchase of undeveloped property in the vicinity of State Road 331 and Sweetwater Branch; the construction of maintainable sediment and

debris removal systems; and the construction of maintainable nutrient removal systems.

An in-depth engineering analysis of the creek system, property topography, associated wetlands, and other pertinent factors is needed to determine the optimum and appropriate scope of property purchase and facilities construction. The City is prepared to pay some of the cost for this analysis, but we are simply unable to bear the entire burden. As a result, we request that the Subcommittee appropriate $2 million as an EPA Special Assistance Grant to assist our efforts. Once the project construction is complete, Gainesville Stormwater Management Utility, a public utility, would provide the required annual maintenance for the facility and no federal maintenance funds would be needed.

This is a critical and much needed project for the City of Gainesville, as well as the entire State of Florida, and we respectfully ask the Subcommittee for its consideration of the Sweetwater Branch/Paynes Prairie Stormwater Project.

PREPARED STATEMENT OF THE CITY OF MIAMI BEACH, FL

Mr. Chairman and Members of the Subcommittee: The City of Miami Beach would first like to thank the subcommittee for all its diligent efforts throughout the past to assist local governments in need. Now, as you begin the long and tedious process of crafting the fiscal year 1998 VA, HUD, and Independent Agencies Appropriation Bill, the City of Miami Beach would like to request the subcommittee's assistance with regards to an important initiative: The Miami Beach Waterway Revitalization Project.

The City of Miami Beach exists as a cluster of barrier islands, with the Atlantic Ocean on one side and the Biscayne Bay Marine Estuary on the other. This six mile long chain of islands is subdivided by 39 miles of canals and waterways. Just after the turn of the century, these natural waterways were "improved" by dredging and the construction of seawalls to improve navigation and to stabilize the shorelines.

Over the years, these once pristine waterways have fallen into decline. The waterway improvements so altered the shoreline ecosystem that the mangroves and other native plants have died-out or been overgrown by nuisance species. The steel and concrete seawalls have crumbled and collapsed.

The loss of native plant communities and the failure of the seawalls has resulted in substantial erosion of the shorelines. The shoreline erosion has undercut roadways and public and private structures. The erosion also transported tens of thousands of tons of sand and topsoil into the waterways.

Silt and sediment from the eroding shorelines have smothered benthic communities and clouded the water. In addition, the eroded shorelines allow rain water run-off to wash nutrients, agricultural chemicals and other pollutants into the waterways.

These water quality and ecosystem impacts have driven away or killed-off the manatees, porpoises, bait fish and gamefish populations which used to be in abundance. The loss of the native wetland plant communities from along the shorelines has also substantially reduced the available habitat for many key bird, reptile and animal species, including many migratory birds which utilize our area as winter nesting grounds.

Through the Miami Beach Waterway Revitalization Project, the City of Miami Beach proposes to address the shoreline erosion problem in a truly innovative and environmentally beneficial manner. The City plans to replace the crumbling concrete and steel seawalls with an innovative "living seawall". This would entail the demolition of the damaged seawalls and the construction of a new wall comprised of carefully intermeshed boulders of different sizes. The slope and elevation of the new boulder walls will be designed to closely mimic the natural tidal creek shorelines which pre-existed the seawalls. The eroded shoreline areas behind the new boulder walls will be refilled with rich topsoil and the entire shoreline will be replanted with native plant species.

Over time, the native plantings will anchor the shoreline and prevent erosion. These shoreline areas will also become a buffer zone protecting the waterways from rainwater run-off and wind blown litter and sediment. The enhanced shorelines will also provide significant new wetland habitat for local and migratory wildlife. As the flow of silt, sediment and polluted run-off are curtailed, and as the shoreline communities recover, water quality within the waterways will be restored and affected marine life will recover.

Finally, the City of Miami Beach will complete the project with the development of an Urban Preserve Program to educate residents and visitors about the importance of marine wetlands, the need for continued enhancement, restoration and pro-

tection of these areas and to promote the sustainable beneficial use of our marine resources.

The City of Miami Beach requests $2.5 million from the subcommittee to begin this important initiative.

PREPARED STATEMENT OF TERRENCE J. O'BRIEN, PRESIDENT, METROPOLITAN WATER RECLAMATION DISTRICT OF GREAT CHICAGO

I am Terrence J. O'Brien, President of the Metropolitan Water Reclamation District of Greater Chicago, and on behalf of the Water Reclamation District, I want to thank the Subcommittee for this opportunity to present our priority for fiscal year 1999, and express our appreciation for your support of our requests over the years. The Metropolitan Water Reclamation District (MWRD) is the sponsor for the federally approved combined sewer overflow (CSO) project, the Tunnel and Reservoir Plan (TARP), in Chicago, Illinois. Specifically, we are asking that $10 million be included to continue construction of this project in the Subcommittee's VA, HUD and Independent Agencies Appropriations Bill for fiscal year 1999. The following outlines the project and the need for the requested funding.

INTRODUCTION

The Metropolitan Water Reclamation District was established in 1889 and has the responsibility for sewage treatment, and is also the lead agency in providing sponsorship for flood control and stormwater management in Cook County, Illinois. In fact, the District was established in response to an epidemic which killed 90,000 people in 1885. By 1900, the District had reversed the flows of the Chicago and Calumet Rivers to carry combined sewage away from Lake Michigan, the area's main water supply. The District has been involved with major engineering feats since its inception.

In an effort to meet the water quality goals of the Clean Water Act, to prevent backflows into Lake Michigan, and to provide an outlet for flood waters, the Metropolitan Water Reclamation District of Greater Chicago designed the innovative Tunnel and Reservoir Plan. The TARP tunnels, which were judged by the EPA on two occasions as the most cost-effective plan available to meet the enforceable provisions of the Clean Water Act, are a combined sewer overflow elimination system. The TARP reservoirs, also under construction, will provide flood control relief to hundreds of thousands of residents and businesses in the Chicagoland area.

TUNNEL AND RESERVOIR PLAN

TARP is an intricate system of drop shafts, tunnels and pumping stations which will capture combined sewer overflows from a service area of 375 square miles. Chicago will remove three times the amount of Combined Sewer Overflow (CSO) pollution as Boston's projected removal—for approximately the same cost. The remaining Calumet tunnel system will provide 3.1 million pounds of biological oxygen demand (BOD) removal versus Boston's one million pounds of BOD removal per year. In fact, Chicago's CSO pollution problems are worse than the combination of Boston, New York, and San Francisco's pollution problems. The Chicago Metropolitan Area's annual BOD loading is 43 million pounds per year. This contrasts with the combination of Boston, New York and San Francisco's combined annual BOD loading of 35 million pounds.

A good portion of the remainder of the TARP system is to be built in the southeast side of Chicago and the southern suburbs (Calumet system), a low-income, highly neglected and highly polluted area. This community suffers from tremendous land, air and water pollution—literally a dumping ground for multi-media pollution ranging from chemical waste to serious water pollution.

Due to the enormous risk to the community, the Water Reclamation District, as the local sponsor, cannot afford to leave the citizens vulnerable. Therefore, it is imperative that this work must continue. Because the construction industry is already doing work in the area, the climate is favorable for proceeding with this work at this time, producing a significant cost savings. What we are seeking, then, is funding to advance federal work.

We have a proven and cost-effective program. In fact, we have estimated that TARP's cost is about a quarter of the cost of separating the area's existing combined sewer systems into separate sewage and stormwater systems. Upon reanalysis, the EPA has consistently found the TARP program to be the most cost-effective solution that will reduce the impacts by the greatest degree to meet the enforceable requirements of the Act, with the least amount of dollars. The project, while relating most

specifically to the 52 tributary municipalities in northeastern Illinois, is also beneficial to our downstream communities such as Joliet and Peoria. These benefits occur because of the capture of wastewater in the tunnels during storm periods and by treatment of the discharge before being released into the waterways.

TARP was designed to give the Chicago metropolitan area the optimal environmental protection that could possibly be provided. More importantly, no other project was found to be as cost effective. In addition, the beneficial use of the project is being enhanced by the addition of the flood control reservoirs now being designed and constructed by the Corps of Engineers, which will be connected to the tunnels for additional capture and storage of combined sewage during flood events. We believe TARP stands as a tribute to our nation's Clean Water goals and one that is being accomplished within the most economical constraints.

REQUESTED ACTION

The $10 million we are seeking in fiscal year 1999 funding in the Subcommittee's bill will help keep the local sponsor whole for the advance construction it plans to accomplish on the Torrence Avenue Leg for the Calumet System of the congressionally-authorized TARP project. While the TARP project was originally authorized at 75 percent federal funding, the District as local sponsor has been contributing at least 50 percent of the total project cost. We greatly appreciate the Subcommittee's endorsement of our request over the years to advance the construction of this work. This fiscal year 1999 work will go a long way to address serious water quality, stormwater and safety problems. It will have a tremendously beneficial impact on a community which suffers from water pollution and significant flooding problems. The facilities plan for the overall TARP project has been approved by the EPA and design has been completed. The EPA has identified this particular segment of work as the next critical section of the plan to be constructed based on significant water quality benefits.

Once on-line, the Torrence Avenue Leg of the Calumet System will capture 2.0 billion gallons of CSO's per year and will protect 15.6 square miles of the City of Chicago from raw sewage backup and flooding.

We urgently request that this funding be included in the Subcommittee's bill for the construction of the Calumet System of the TARP project. We thank you in advance for your consideration of our request.

PREPARED STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA) is the service organization representing the interests of the more than 2,000 municipal and other state and locally owned utilities throughout the United States. Collectively, public power utilities deliver electric energy to one of every seven U.S. electric consumers (about 35 million people) serving some of the nation's largest cities. The majority of APPA's member systems are located in small and medium-sized communities in every state except Hawaii. We appreciate the opportunity to submit this statement concerning fiscal year 1999 appropriations for programs under this Subcommittee's jurisdiction.

I. Climate Change Action Plan Voluntary Partnership Programs

APPA supports the Administration's fiscal year 1999 budget request of $231 million for Climate Change Action Plan programs operated by the Environmental Protection Agency (EPA). These partnerships emphasize cost-effective measures to reduce, avoid or sequester greenhouse gas emissions in order to return them to 1990 levels. Through voluntary agreements, public power and other electric utilities have committed to reducing emissions by over 43 million metric tons of carbon equivalent in the year 2000. In addition to demonstrating that important environmental objectives can be achieved through voluntary efforts, these EPA programs contribute to a stronger U.S. position in international climate change negotiations. Of particular interest to APPA member systems are the Green Lights, Energy Star and Landfill Methane Outreach programs operated by EPA.

GREEN LIGHTS PROGRAM

The Green Lights program encourages use of energy efficient lighting to reduce energy costs, increase productivity, promote customer retention and protect the environment. Program partners agree to survey lighting in their facilities and to upgrade it, if cost effective. Environmental benefits result from more efficient energy use and from reductions in emissions of carbon dioxide, sulfur dioxide and nitrogen dioxide, thus improving air quality. EPA provides program participants public recognition and technical support. Both large and small APPA member systems partici-

pate in this program including City Utilities of Springfield, MO; Concord Municipal Light Plant, MA; City of Georgetown, TX; Grant County Public Utility District, WA; Gray's Harbor County PUD, WA; Greenville Utilities Commission, NC; Indiana Municipal Power Authority, IN; Los Angeles Department of Water & Power, CA; Mason County PUD, WA; New York Power Authority, NY; Norwood Municipal Light Department, MA; Omaha Public Power District, NE; Orlando Utilities Commission, FL; Port Angeles City Light Department, WA; Puerto Rico Electric Power Authority, PR; Sacramento Municipal Utility District, CA; City of St. Charles Electric Utility, IL; Salt River Project, AZ; Virgin Islands Water & Power Authority, VI; Springfield Utility Board, OR, and Taunton Municipal Lighting Plant, MA.

ENERGY STAR PROGRAMS

A number of EPA's Energy Star programs build on the successes of Green Lights. These important EPA programs are examples of successful public/nonpublic partnerships that promote the use of profitable, energy-efficient technologies as a way to increase profits and competitiveness while at the same time minimizing pollution. They include Energy Star Buildings, the Energy Star Transformer Program, Energy Star office equipment and the Residential Energy Star Program. APPA member systems participate in and support EPA's Energy Star efforts.

LANDFILL METHANE OUTREACH PROGRAM

The Landfill Methane Outreach Program provides environmental benefits by encouraging utilities to make use of landfill gas as an energy source. Several APPA member systems participate in this program, including Illinois Municipal Electric Agency, IL; Jacksonville Electric Authority, FL; Emerald People's Utility District, OR; Los Angeles Department of Water and Power, CA, and Orlando Utilities Commission, FL. Utilities voluntarily agree to take advantage of the best opportunities to use landfill gas in generating power. EPA recognizes and publicizes the utility's efforts and provides technical assistance. One of the success stories cited by EPA occurred with APPA member system Emerald People's Utility District in Eugene, OR. This public power utility worked collaboratively with the State of Oregon, Lane County officials and a private investment company to develop a 3.4 MW plant at the Short Mountain Landfill. EPUD's general manager says landfill energy recovery is like "turning straw into gold," providing additional revenue to EPUD as well as a fee to the county.

II. Council on Environmental Quality (CEQ)

APPA supports the Administration's fiscal year 1999 budget request of $3,020,000 for the Council on Environmental Quality (CEQ). As units of local government APPA member utilities have a unique perspective on environmental regulation. Public power utilities and others from industry have experienced a general lack of consistency in federal environmental regulation. While additional layers of government should be avoided, a central overseer can perform a valuable function in preventing duplicative, unnecessary and inconsistent regulations. The council is responsible for ensuring that federal agencies perform their tasks in an efficient and coordinated manner. For these reasons, APPA supports the existence and continued operation of CEQ.

III. Superfund

APPA member systems also support the Administration's request of $1,442.7 million for Superfund cleanups. The Superfund Trust Fund as well as Superfund research programs are critical as we consider reauthorization of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the law authorizing Superfund. The increased emphasis on expedited settlements and administrative relief, the Brownfields Initiative and more effective use of alternative dispute resolution by EPA are worthy goals.

Again, APPA member systems appreciate your consideration of our views on priority appropriations issues for fiscal year 1999.

PREPARED STATEMENT OF JOE L. MAUDERLY, SENIOR SCIENTIST AND DIRECTOR OF EXTERNAL AFFAIRS, LOVELACE RESPIRATORY RESEARCH INSTITUTE

It is requested that the U.S. Environmental Protection Agency (EPA) continue to support the National Environmental Respiratory Center for the purpose of providing information, conducting research, providing research resources, and facilitating communication concerning the respiratory health risks of combined exposures to mul-

tiple air pollutants and pollutant mixtures. Funds for the Center are requested in the fiscal year 1999 EPA appropriation.

STATUS OF THE NATIONAL ENVIRONMENTAL RESPIRATORY CENTER

The National Environmental Respiratory Center was established through the fiscal year 1998 EPA appropriation. The mission of the Center is to catalyze, facilitate, and participate in a long-range national initiative to understand respiratory health risks from combinations of inhaled airborne environmental and occupational pollutants. The Center's goal is to help place the respiratory health risks from variable, mixed pollutant atmospheres in their appropriate context as a basis for regulatory and technological decision making. The Center is operated by the Lovelace Respiratory Research Institute in Albuquerque, New Mexico, and is located in the government-owned, now privatized, Inhalation Toxicology Research Institute facility, which is leased by Lovelace.

The establishment of the Center is well underway at the midpoint of its first year. The infrastructure of the Center has been developed, and the information resources are under development. Agencies, health advocacy organizations, industry stakeholders and their trade associations are being briefed on the Center and their support is being enlisted to fulfill the Center's intent as an interagency, government-industry initiative. Selection of the initial series of specific research projects is underway, and research will be initiated in this fiscal year. The goals of the Center and its research resources are being communicated to the scientific community, and collaborative projects are under development. A budget and plan of work has been prepared for the second year, the funding for which is being requested in this testimony.

THE CENTER IS NEEDED TO RESOLVE CRITICAL UNCERTAINTIES ABOUT THE RELATIONSHIP BETWEEN AIR POLLUTANTS AND HEALTH

The U.S. has a huge burden of respiratory disease

Respiratory diseases kill one out of four Americans. Among cancers, the second leading cause of death, lung cancer is the single largest killer. Nearly 195 thousand new cases of respiratory tract cancer will be diagnosed this year, and 166 thousand Americans will die from these cancers. Lung cancer kills more than twice as many women as breast cancer, and more than twice as many men as prostate cancer. Pneumonia and heart-lung failure are the terminal conditions for many of our elderly. Excluding cancer, chronic respiratory diseases and pneumonia are the third leading cause of death in the U.S., killing over 188 thousand Americans in 1995. Asthma, growing unaccountably in recent decades, now afflicts 15 million Americans, including 5 million children. The incidence of asthma increased 61 percent between 1982 and 1994, and asthma deaths among children nearly doubled between 1980 and 1993. Viral respiratory infections are the most common cause of hospitalization of infants and cause a tremendous loss of productivity in the adult workforce. Occupational lung disease is the number one work-related illness in the U.S. in terms of frequency, severity, and degree of "preventability". Worldwide, three times more people die from tuberculosis than from AIDS.

The contributions of air pollution and occupational air contaminants are uncertain

Pollutants inhaled in the environment, workplace, and home are known to aggravate asthma and contribute to respiratory illness, but the extent of their role in causing respiratory disease is not clear. It is known that it is possible for airborne irritants, toxins, allergens, carcinogens, and infectious agents to cause cancer, degenerative disease, and infections directly, or indirectly through reduction of normal defenses, but the portion of such diseases caused by, or strongly influenced by, pollution is uncertain.

EPA and other agencies are faced with estimating the health effects of air contaminants on the basis of very limited information and in the presence of large uncertainty. It is difficult to associate health effects with specific pollutant sources. Most environmental air contaminants have multiple sources which produce species of overlapping, but slightly different physical-chemical types. There are few biological markers of exposure which can be used to link health effects to past exposures to pollutant classes, much less to specific pollutants and sources. This makes it very difficult to associate specific pollutant species with specific health effects, identify and prioritize the sources whose management would most efficiently reduce the effects, and compare potential health gains to the financial, technological, and lifestyle commitments required to achieve them.

Estimating the effects of combined exposures to pollutant mixtures is an especially critical problem

EPA faces the critical problem of having little scientific or regulatory ability to deal with pollutant mixtures. Nobody ever breathed only one pollutant at a time! Although all exposures to air pollutants involve inhalation of complex mixtures of materials, but there is very little research on the health effects of mixtures, or the significance of interactions among combined or sequential exposures to multiple pollutants. The present approach to implementing the National Ambient Air Quality Standards (NAAQS) addresses individual contaminants, or contaminant classes, in isolation. There is little framework for considering the effects of pollutant mixtures, and little ongoing research that will provide a basis for such a framework. We know that multiple pollutants can cause common effects, such as inflammation. We know that some pollutants can amplify the effects of others. We can presume that a mixture of pollutants, each within its acceptable concentration, could present an unacceptable aggregate health risk. We face the possibility, exemplified by current uncertainties about particulate matter, that a pollutant occurring in a mixture might wrongly be assigned sole responsibility for a health effect that, in fact, results from the mixture or an unrecognized copollutant that varies in concert with the accused species. This issue will become increasingly important as pollutant levels are pushed ever lower, and needs coordinated, interdisciplinary attention.

As air pollutant levels are reduced, the problems of correctly linking health effects to the correct species and sources, and of making difficult cost-benefit policy judgments, will increase. The levels of many environmental air contaminants have decreased due to technological developments and regulatory pressures. For example, between 1985 and 1995, concentrations of airborne lead, sulfur dioxide, and carbon monoxide in the U.S. decreased 32 percent, 18 percent, and 16 percent, respectively, and levels of airborne particulate matter decreased 22 percent between 1988 and 1995. Levels of ozone and several other pollutants have also decreased.

As background levels are approached, decisions regarding: (a) the benefits of further reductions in man-made pollution; (b) the need to consider pollutants as a mixture rather than as individual species; and (c) the point at which small biological changes represent health effects warranting control, will be more difficult and will require additional focused, coordinated research.

There is no other Center or interagency activity focused on the problem of combined exposures to air pollutants and providing the resources provided by the Center

EPA and its advisory committees are increasingly recognizing the importance of understanding the effects of pollutant mixtures. The Agency is developing a "One Atmosphere" initiative to better understand pollutant mixtures, but this activity is small and does not yet focus on health effects. Indeed, EPA does not have the mandate or resources to resolve all of these interrelated issues alone; the resources of other agencies and non-federal sponsors are critical. Current efforts relevant to the mixtures issue are funded by multiple agencies, and by health advocacy organizations, industry, labor, and private foundations. There is no effective coordination of these activities, and no central mechanism for facilitating communication and research planning. Progress will require a wide range of laboratory researchers, atmospheric scientists, epidemiologists, and clinical researchers. Focusing and resolving the issues will require interactions among researchers, health care professionals, and policy makers in an iterative manner that fosters rapid information transfer and development of joint investigative strategies. An important function of the National Environmental Respiratory Center is to serve as a focal point for interdisciplinary communication, research needs identification, and research resource coordination.

There is also no other national center for collecting and disseminating information on the health impacts of airborne environmental contaminants. Researchers, federal agencies, congress, industry, and the public have no other centralized source of information on ongoing research or recent findings.

There is no other national interagency user facility with the specialized facilities, equipment, core support, and professional collaboration required for many types of investigations to study the complex airborne materials and health responses of concern. No activity other than the Center serves to facilitate the work of investigators in universities, federal laboratories, and industry by identifying and providing shared resources or standardized samples.

No other national center is focused on serving cross-agency and government-industry needs in this filed. EPA and other agencies have intramural research centers or administrative structures that serve internal programmatic coordination needs, but these efforts rarely extend across agency lines. EPA and other agencies also fund extramural centers to study, or facilitate the study, of specific issues related

to environmental respiratory health, but none are focused on the overriding problem of the health effects of pollutant mixtures.

THE NATIONAL ENVIRONMENTAL RESPIRATORY CENTER WILL ADDRESS THE COMBINED EXPOSURES PROBLEM THROUGH FOUR KEY FUNCTIONS

The Center will perform the following functions

Conduct research.—The Center will conduct intramural and collaborative research relevant to understanding the respiratory health risks of combined exposures to airborne toxicants, and the exposure-response, mechanisms, susceptibility, and interspecies extrapolation issues important to advancing our understanding of respiratory disease and the control of health risks. The advice of a scientific advisory committee and other external scientific peer review will be used in guiding the Center's research program. This effort will be expanded by complementary research funded through collaborations with external scientists making use of the Center's specialized facilities.

Provide information.—The Center will develop, maintain, and make broadly available information related to combined exposures issues. Researchers, agencies, congress, industry, students, and the public will access listings of published research, ongoing research, relevant scientific and regulatory issues, and research resources by phone, fax, e-mail, and the Internet. The Center will develop and keep current information specific to combined exposures issues that is not currently maintained in organized form by other organizations. It will also provide links to the many related data bases on air contaminants and health that are maintained by other organizations.

Facilitate communication and planning.—The Center will coordinate workshops and conferences on the health effects of pollutant mixtures and combined exposures. Current knowledge will be benchmarked. Particular emphasis will be given to establishing a continuing communication loop between health scientists and atmospheric scientists to focus the efforts of both research communities on the exposures and effects thought to be the most important. Multiple government and non-government research sponsors and researchers from numerous organizations and disciplines will be brought together to identify critical research gaps and optimize the use of resources. This effort will complement other interagency and government-industry coordination activities.

Provide research facilities.—The Center will develop and maintain certain specialized facilities needed for research on mixtures, reaction products, and combined exposures. It will make the facilities operated by Lovelace available for use by researchers in other organizations, collaborating and providing assistance as appropriate. It will also assist researchers in identifying and accessing specialized resources and collaborators in other organizations.

CONTINUED FUNDING OF THE CENTER IS REQUESTED

The Center is intended as a long-term communication, facilitation, and research effort. Funding for the first year was provided through the fiscal year 1998 EPA appropriation. It is anticipated that the Agency will ultimately incorporate funding for the Center into its budget request, as a component of its "One Atmosphere" initiative or other programs dealing with pollutant mixture issues. Until that occurs, funding through the Agency's appropriation will be necessary to continue the project. Funding is requested in the fiscal year 1999 EPA appropriation for the second year in the amount of $2 million (identical to the first year level).

PREPARED STATEMENT OF KERRY L. SUBLETTE, SARKEYS PROFESSOR OF ENVIRONMENTAL ENGINEERING, UNIVERSITY OF TULSA, DIRECTOR, INTEGRATED PUBLIC/PRIVATE ENERGY & ENVIRONMENTAL CONSORTIUM

It is proposed that the U.S. Environmental Protection Agency continue to support a focused, university-based program, the Integrated Public/Private Energy & Environmental Consortium (IPEC), with the goal of increasing the competitiveness of the domestic petroleum industry through a reduction in the cost of compliance with U.S. environmental regulations. Continued Federal support of $4 million is specifically requested as part of the fiscal year 1999 appropriation for the Environmental Protection Agency through the Science and Technology account or other source the Subcommittee may determine to be appropriate.

Mr. Chairman, on behalf of the Integrated Petroleum Environmental Consortium (IPEC), I would like to take this opportunity to thank you for providing $1.5 million in funding for IPEC in the fiscal year 1998 appropriations bill for the Environ-

mental Protection Agency (EPA). Under your leadership both houses of Congress and the final appropriations bill included initial funding for this Consortium. Specifically this funding was provided for the development of cost-effective environmental technology, improved business practices, and technology transfer for the domestic petroleum industry. With initial funding under the Science and Technology account of EPA, IPEC will implement a comprehensive mechanism (Center) to advance the consortium's research expertise in environmental technology. IPEC's operating practices and linkages to the independent sector will ensure that real problems in the domestic petroleum industry are addressed with real, workable solutions. The consortium includes the University of Tulsa, the University of Oklahoma, Oklahoma State University, and the University of Arkansas.

We are pleased to report that, as envisioned and proposed by the consortium, State-level matching funds have been pledged to support IPEC, creating a true Federal-State partnership in this critical area. In fiscal year 1998, IPEC has secured a pledge of $375,000 in matching funds from the Chancellor of Higher Education of the State of Oklahoma.

IPEC officers have met with the Director of the Environmental Engineering Research Division of the EPA National Center for Environmental Research and Quality Assurance. The Consortium is working with EPA to ensure that we meet the agency's requirements for funding as a research center and the successful funding of IPEC.

IPEC is proceeding in its solicitation and review process so that we will be in a position to fund projects as soon as possible. The IPEC Industrial Advisory Board (IAB) has been formed and met for the first time on January 20, 1998. This twenty-member Board is composed of environmental professionals from the domestic petroleum industry and is dominated by representatives of independent producers. We are pleased to report that IPEC's Industrial Advisory Board has approved five programs for funding and more are expected in the coming months. These five projects are:

(1) *Intrinsic bioremediation of whole gasoline*.—This project seeks to develop a scientific basis for a risked-based approach to management of sites contaminated with gasoline. The project will investigate the mechanism and rate of the natural attenuation of gasoline via biodegradation by microorganisms which occur naturally in soil (termed intrinsic bioremediation). If all of the regulated components of gasoline can be naturally biodegraded, then contaminated sites which pose no immediate threat to human health or environmental receptors can be given a low priority for active intervention freeing precious resources to be allocated to sites where the threat is more acute.

(2) *Microflora involved in phytoremediation of polyaromatic hydrocarbons*.—Phytoremediation is the term applied to the use of plants and microorganisms that thrive in the plant's root zone to biodegrade soil pollutants such as polyaromatic hydrocarbons (PAH's). PAH's are a major class of recalcitrant pollutants and are a significant byproduct of petroleum processing and refining. PAH's are concentrated in food chains, are toxic, and some are recognized mutagens and carcinogens. This project will determine the feasibility of using plants to degrade these PAH's in contaminated soil by creating a "living cap" of plants and associated microorganisms over contaminated sites. The costs of such waste treatment are far below those required for conventional treatment such as excavation and incineration of contaminated soil.

(3) *Passive sampling devices (PSD's) for bioavailability screening of soils containing petrochemicals*.—The concept of a risk-based corrective action applied to the management of contaminated soil or groundwater requires that a regulator assess human risk. Soil contaminants can be detected by chemical analysis, but this provides little information on the actual hazard presented to ecological and human receptors. In some cases, contaminant levels above current soil quality guideline levels exists, but not toxicity. In other cases, chemical levels are below soil quality guidelines, yet toxicity persists. This project seeks to develop a rapid, cost-effective screening tool or passive sampling device (PSD) to determine the actual toxicity of contaminants in soil and their bioremediation potential. Use of such a device to determine the actual risks to human health presented by a site and its amenability to bioremediation would allow regulators to better prioritize contaminated sites needing immediate remedial action.

(4) *Using plants to remediate petroleum-contaminated soil*.—This project also proposes to use plants and associated microorganisms in the plants root zone to effect the remediation of soil contaminants. This project specifically seeks to conduct field studies to develop protocols suitable for phytoremediation of petroleum-contaminated secondary containment berms. These earthen berms are designed to contain fluids in the event of a major spill or leak in a tank. Many of these berms become

contaminated with oil through leaks, spills, and normal transfer operations. This project envisions the continuous cultivation of suitable plants on these berms to keep oil contamination under control.

(5) *Probabilistic risk assessment of petroleum contamination using detailed physical models.*—Like all human endeavors the exploration and production (E&P) of oil and gas has associated with it some risk of damage to human or environmental health. Response to this risk can be reactive or proactive. The latter is of course preferred since proactive management prevents environmental damage and injury and is less costly. This project will develop a proactive risk management program for E&P operations to minimize the potential for environmental damage. This risk-based approach makes resource allocation more effective based on the probability that a scenario will occur and the potential severity of the associated damage. Proactive risk management in the domestic petroleum industry has the potential for both significant cost savings and enhanced environmental protection.

The use of the Industrial Advisory Board to measure the relevancy of research within the Consortium is truly unique and ensures that the Consortium is meeting the needs of the domestic petroleum industry. IPEC has secured significant matching funds from industry for these first five programs. The combined funding request for these five projects is $492,000; however, the investigators have secured another $502,000 in matching funds from industry for these projects from individual companies and industry organizations such as the Gas Research Institute, the American Petroleum Institute and the Petroleum Environmental Research Forum. IPEC is well on its way to becoming a true public/private partnership.

As we have previously testified, the ability of small and medium sized producers to compete in a global market is complicated by two factors: the cost of regulatory compliance and the declining cost of crude oil. With your help IPEC is developing cost-effective solutions for the environmental problems that represent the greatest challenge to the competitiveness of the domestic petroleum industry. However, the fiscal year 1998 appropriation is only a beginning. For example, the IPEC Industrial Advisory Board has identified 26 critical research needs. With the current funding we can begin to address only a fraction of these needs. There is much work to be done and we are again requesting the support of the Subcommittee in the form of a $4 million appropriation for IPEC in fiscal year 1999.

THE CONTINUING CRISIS IN THE DOMESTIC PETROLEUM INDUSTRY

The crisis in the domestic petroleum industry that we described in testimony in the last session of Congress has only gotten worse as the price of crude oil continues to fall. The independent producers are producing from mature fields left behind by the majors. Although there is a significant resource base in the fields, this is the most difficult and the most costly oil to produce. The independent producer has only one source of revenue—the sale of oil and gas. There is no vertical depth to his business. With the price of oil this low the independent producer is extremely vulnerable to the costs of environmental compliance. This latest drop in oil prices will no doubt result in another wave of business closures, plugged and abandoned wells, and reduced new well completions. The problem is so acute that the Governor of Oklahoma recently formed an emergency task force to determine what the state can do to help Oklahoma producers survive the current decline in prices. A similar price crash in the 1980's triggered a prolonged statewide recession. Clearly this trend is not in the best interest of the U.S. in terms of energy self-sufficiency or national security. We are turning over control of our cost of production in terms of energy costs to foreign interests. If domestic exploration and production and refining are to continue to play a strategic role in meeting U.S. energy needs, the domestic petroleum producer will continue to require access to cost-effective technology for pollution prevention, waste treatment and remediation in exploration and production (E&P) and refining.

IPEC'S RESPONSE TO CRITICAL RESEARCH NEEDS

IPEC will continue to work with the domestic petroleum industry to provide solutions to those environmental problems that represent the greatest challenge to the competitiveness of the industry. Specifically in fiscal year 1999 IPEC will continue to work with our Industrial Advisory Board to address the remaining critical research needs they have identified as well as address new needs that develop. These research needs include the following:

(1) *Bioremediation and other remediation technologies.*—Reducing toxicity of hydrocarbon-contaminated soils; development of rapid, on-site remediation technologies; control of salt migration in the subsurface; developing methodologies for phytoremediation.

(2) *Risk assessment*.—Development of cost-effective ecological risk assessment methods for petroleum impacted sites; development of cost-effective and relevant terrestrial (animal/plant) bioassays for use in ecological risk/impact assessment; development of field methods for ecological risk assessment; development of methods to evaluate actual and future environmental risk of petroleum impacted soils; determining the correlation between ecological risk assessment and human health risk assessment; determining the impact of intrinsic bioremediation on risk-based closures; development of risk-based guidelines for handling, disposal and storage of NORM-contaminated solids, pipe, and equipment.

(3) *Measurement technology*.—Development of cost-effective methods (direct and indirect) for measuring the amount and extent of petroleum hydrocarbon sources in unsaturated and saturated soils; development of useful and easy to implement field and analytical methods and protocols for demonstrating intrinsic bioremediation; validating current models for predicting flash emissions of hydrocarbons in E&P operations.

(4) *Process technologies*.—Control or treatment of flash gas emissions from stock tanks; use, treatment or disposal of oil tank bottoms; development of cost-effective methods for capture, recycling/destruction of volatile organic compound emissions from hydrocarbon processing and storage tanks; development of improved water treatment methods—particularly those methods; development of methods to for treatment of hydrogen sulfide in the reservoir.

(5) *Management and decision tools*.—Development of methods to predict plume migration of salt water from pits; development of methods to calculate the full life cycle cost of material and waste handling in the petroleum industry; development of proper pit closure methods using a clay or compacted soil cap; development of improved methods for disposal of drilling wastes; development of methods to distinguish between historical oil field pollution and recent, current and/or ongoing pollution.

In addition to working with our Industrial Advisory Board, IPEC will continue in fiscal year 1999 to build linkages with organizations which provide services to the domestic petroleum industry. As IPEC begins to fund technology development projects the Directors will work with the leadership of these organizations to develop a synergy between their efforts and those of IPEC. These organizations form the IPEC Affiliates Group and include the National Petroleum Technology Office (NPTO) of the U.S. Department of Energy, the Interstate Oil and Gas Compact Commission (IOGCC), the Petroleum Environmental Research Forum (PERF) the Oklahoma Energy Resources Board (OERB), the Oklahoma Independent Petroleum Association (OIPA), the Gas Research Institute (GRI), the Office of the Oklahoma Secretary of Energy, the Osage Agency of the Bureau of Indian Affairs and the Oil Producers of Arkansas (OPA). Recently, Governor Frank Keating of Oklahoma named the IPEC Director to the Environmental and Safety Committee of the IOGCC.

Since 1994 IPEC has organized and conducted the International Petroleum Environmental Conference. Dr. Kerry Sublette, Director of IPEC, has served as chair of these conferences. This conference is quickly becoming the premier conference of its kind in the U.S. and represents the flagship of technology transfer for IPEC. The last conference (4th) was held in San Antonio, TX and featured 8 plenary lectures, 135 technical presentations, a special symposium on intrinsic bioremediation of petroleum hydrocarbons, 30 exhibits and a poster session. There were 401 attendees from academia, independent and major oil and gas companies, companies that service the domestic petroleum industry, state and federal regulators, and the legal community. The NPTO of the U.S. Department of Energy was a major sponsor of the conference. Other co-sponsors included the Oklahoma Energy Resources Board, the Oklahoma Independent Petroleum Association, the Gas Research Institute, the Texas Railroad Commission, The Texas Independent Producers & Royalty Owners Association, the Petroleum Technology Transfer Council, the Interstate Oil and Gas Compact Commission, the National Energy-Environment Law and Policy Institute, the Great Plains/Rocky Mountain Hazardous Substance Research Center and The Nature Conservancy. This conference is IPEC's technology transfer flagship. The next conference is planned for Oct. 1998 in Albuquerque, NM.

As a final note we would like to report that the Consortium is changing its name from the Integrated Petroleum Environmental Consortium to the Integrated Public/Private Energy & Environmental Consortium (IPEC). The member institutions of IPEC believe that this new name more correctly reflects the full scope of research capabilities of the institutions and gives us the flexibility to respond to future environmental research needs under the IPEC name. However, our mission with respect to the domestic petroleum industry has not changed and we remain devoted to in-

creasing the competitiveness of this critical industry through a reduction in the cost of compliance with U.S. environmental regulations.

FUNDING OF IPEC

IPEC is seeking appropriations of $4 million for fiscal year 1999 and the succeeding fiscal years 2000, 2001, and 2002 through the Environmental Protection Agency. The consortium will be responsible for at least a 50 percent match of federal appropriations with private sector and state support over a four year period. The Consortium will be subject to annual review to ensure the effective production of data, regulatory assessments, and technology development meeting the stated goals of the Consortium.

PREPARED STATEMENT OF MICHAEL P. KENNY, EXECUTIVE OFFICER, CALIFORNIA AIR RESOURCES BOARD; BARBARA PATRICK, MEMBER, BOARD SUPERVISOR, KERN COUNTY AND MEMBER, CALIFORNIA AIR RESOURCES BOARD; MANUEL CUNHA, JR., PRESIDENT, NISEI FARMERS LEAGUE; LES CLARK, VICE PRESIDENT, INDEPENDENT OIL PRODUCERS' ASSOCIATION; AND CATHERINE H. REHEIS, MANAGING COORDINATOR, WESTERN STATES PETROLEUM ASSOCIATION

Mr. Chairman and Members of the Subcommittee: On behalf of the California Industry and Government Coalition on PM–10/PM–2.5, we are pleased to submit this statement for the record in support of our fiscal year 1999 funding request of $1.25 million in the EPA budget for the California San Joaquin Valley Regional PM–10/PM–2.5 Air Quality Study.

The San Joaquin Valley of California and surrounding regions exceed both state and federal clean air standards for small particulate matter, designated PM–10/PM–2.5. The 1990 Federal Clean Air Act Amendments require these areas to attain federal PM–10/PM–2.5 standards by December 31, 2001. Attainment of these standards requires effective and equitable distribution of pollution controls that cannot be determined without a major study of this issue.

According to EPA and the California Air Resources Board, existing research data show that air quality caused by the PM–10/PM–2.5 problem has the potential to threaten the health of more than 3 million people living in the region, reduce visibility, and impact negatively on the quality of life. Unless the causes, effects and problems associated with PM–10/PM–2.5 are better addressed and understood, many industries will suffer due to production and transportation problems, diminishing natural resources, and increasing costs of fighting a problem that begs for a soundly researched solution.

PM–10/PM–2.5 problems stem from a variety of industry and other sources, and they are a significant problem in the areas that are characteristic of much of California. Typical PM–10/PM–2.5 sources are dust stirred up by vehicles on unpaved roads, and dirt loosened and carried by wind during cultivation of agricultural land. Soil erosion through wind and other agents also leads to aggravation of PM–10/PM–2.5 air pollution problems.

The importance of this study on PM–10/PM–2.5 is underscored by the need for more information on how the Federal Clean Air Act Amendments standards can be met effectively by the business community, as well as by agencies of federal, state and local government whose activities contribute to the problem, and who are subject to the requirements of Title V of the Clean Air Act. There is a void in our current understanding of the amount and impact each source of PM–10/PM–2.5 actually contributes to the overall problem. Without a better understanding and more information—which this study would provide—industry and government will be unable to develop an effective attainment plan and control measures.

Our Coalition is working diligently to be a part of the effort to solve this major problem, but to do so, we need federal assistance to support research and efforts to deal effectively with what is essentially an unfunded federal mandate.

Numerous industries, in concert with the State of California and local governmental entities, are attempting to do our part, and we come to the appropriations process to request assistance in obtaining a fair federal share of financial support for this important research effort. In 1990, our Coalition joined forces to undertake a study essential to the development of an effective attainment plan and effective control measures for the San Joaquin Valley of California. This unique cooperative partnership involving federal, state and local government, as well as private industry, has raised more than $19 million to date to fund research and planning for a comprehensive PM–10/PM–2.5 air quality study. Our cooperative effort on this issue continues, and our hope is that private industry and federal, state and local govern-

ments will be able to raise an additional $8 million over the next two years to fund this important study.

To date, this study project has benefited from federal funding provided through EPA's, DOT'S, DOD's, USDA's, and Interior's budgets—a total of $10.6 million in federal funding, including $6.35 million in EPA appropriations. State and industry funding has matched this amount virtually dollar for dollar.

With the planning phase of the California Regional PM–10/PM–2.5 Air Quality Study nearly complete, a number of significant accomplishments have been achieved. These interim products have not only provided guidance for completion of the remainder of the Study and crucial information for near-term regulatory planning, they have also produced preliminary findings which are significant to the Environmental Protection Agency's (EPA) interests.

The Study is significant to EPA interests for a number of reasons. The San Joaquin Valley experiences some of the most severe PM episodes in the nation. The Valley is currently classified as one of five serious PM–10 non-attainment areas, and is likely to exceed both the new annual and 24-hour national ambient air quality standards (NAAQS) for PM–2.5. Exceedances of the PM–10 and PM–2.5 standards span many seasons and are influenced by a broad cross-section of sources. The information being collected by the PM study is essential for development of sound and cost-effective control plans. A number of the Study work products however will also have applicability to other areas of the nation. Products such as evaluation of monitoring methods and improved air quality and meteorological modeling techniques will assist the EPA in addressing PM non-attainment problems in areas outside of California as well.

To this end, the PM study is expending significant resources to provide an improved understanding of the nature and causes of PM exceedances within the San Joaquin Valley and surrounding regions. One of the major recent efforts was a preliminary field monitoring program that was conducted during the fall and winter of 1995–96. Extensive air quality, meteorological, and fog measurements were collected. This database is being analyzed to address a number of questions including: (1) the sources contributing to elevated PM–10 and PM–2.5 concentrations, (2) the zone of influence of specific sources, (3) the spatial representativeness of a monitoring site, (4) the adequacy of current monitoring methods, and (5) wind flow patterns and transport routes between the Valley and surrounding areas. The database produced as a part of this study is unparalleled in the nation, and results from the study are already providing a substantive base of understanding about PM–2.5. Preliminary results indicate that PM–2.5 constitutes 70 percent to 80 percent of the PM–10 mass during the wintertime. Secondary ammonium nitrate is often the largest fraction of PM–2.5 mass, and concentrations of ammonium nitrate tend to be very uniform throughout the study region. Site to site variability in PM–2.5 mass is primarily due to local variations in carbon, superimposed on the regional background of ammonium nitrate.

The results of these analyses are being used to design large scale field monitoring programs to be conducted in 1999 and 2000. These field programs will address both the annual and 24-hour PM–10 and PM–2.5 standard. Surface and aloft monitoring of air quality, meteorology, fog, and visibility will be conducted at a cost of over $12 million. Final plans for these field studies are being developed, which will be carried out by numerous contractors over a broad area encompassing Central California, the Sierra Nevada Mountains, and the Mojave Desert. Substantial resources will also be devoted to developing improved emissions estimates. A database of the field study results will be completed in 2001, with air quality modeling and data analysis findings available in 2002. This timeline is ideally positioned to provide information for federal planning requirements as a part of the new PM–10/PM–2.5 NAAQS.

The Environmental Protection Agency's prior funding and strong support for the Study have enabled projects to occur. Continued support by EPA is essential to implement the major field programs and subsequent modeling and data analysis and ensure that effective control can be developed to meet the PM–10 and PM–2.5 NAAQS.

For fiscal year 1999 our Coalition is seeking $1.25 million in federal funding through the U.S. Environmental Protection Agency to support continuation of this vital study in California. We respectfully request that the Appropriations Subcommittee on VA, HUD and Independent Agencies provided this additional amount in the EPA appropriation for fiscal year 1999 and that report language be included directing the full amount for California.

The San Joaquin Valley PM–10/PM–2.5 study will not only provide this vital information for a region identified as having particularly acute PM–10/PM–2.5 problems, it will also serve as a model for other regions of the country that are experiencing similar problems. The results of this study will provide improved methods

and tools for air quality monitoring, emission estimations, and effective control strategies nationwide. Consequently, the beneficial results of this study will contribute to national policy concerns as well.

The Coalition appreciates the Subcommittee's consideration of this request for a fiscal year 1999 appropriation of $1.25 million for EPA to support the San Joaquin Valley Region PM–10/PM–2.5 Air Quality Study.

PREPARED STATEMENT OF ROBERT B. PEACOCK, CHAIRMAN, FOND DU LAC BAND OF LAKE SUPERIOR CHIPPEWA

Mr. Chairman, Members, the Fond du Lac Band of Lake Superior Chippewa would like to thank you for the opportunity to present this testimony on fiscal year 1999 appropriations for the VA, HUD, and Independent Agencies. We seek the Committee's support for our Environmental Program and our cooperative environmental research initiative, which are essential to protect the environmental quality and the natural resources on which our people depend, and are also vitally important to the other citizens in our region.

The Fond du Lac Reservation is one of six Chippewa Bands in the State of Minnesota. The Reservation was established by the Treaty of 1854 with the United States Government. Currently, there are about 3,350 Fond du Lac Band Members. The Fond du Lac Reservation encompasses approximately 100,000 acres, and is located 20 miles west of Duluth, Minnesota and the western end of Lake Superior.

FISCAL YEAR 1999 FUNDING FOR INDIAN HOUSING PROGRAM

The continuation of support for the Indian Housing Program is very important to the Fond du Lac Band. These funds from HUD are essential to build affordable housing for our Band Members. We urgently request that the Indian Housing Program budget be increased to address the need for additional housing or at a minimum to maintain the current funding levels.

FISCAL YEAR 1999 U.S. ENVIRONMENTAL PROTECTION AGENCY

We are requesting a total of $275,000 in fiscal year 1999 to continue the funding of the Sediment Contaminant Mitigation and Prevention for Mercury project through the U.S. Environmental Protection Agency.

This project is a cooperative study between the University of Minnesota/Duluth, the University of Wisconsin/Superior, and the Fond du Lac Natural Resources Program, to test various methods of preventing mercury contamination in aquatic sediments from getting into the food chain. Mitigation treatments have been successfully tested on a small scale on contaminated sediments in a reservoir. The mitigation technology we have been testing can be developed into an effective and efficient means of remediating mercury problems. Cost effective mitigation technologies must be tested on a larger scale to develop practical methods to be used full scale on lakes, rivers, reservoirs, and watersheds. The most effective and economical method will be tried on a large scale. The mitigation techniques developed will be transferable to other locations in the Great Lakes Region as well as other locations with the same problem. Congress provided $100,000 for the first phase of this study in 1996. We would like to thank the Committee for its support of this important project. We are requesting $275,000 to continue this study in 1999. These additional funds are critical to complete the testing and development of this mitigation technology.

The mercury contamination in our region's fish continues to be a serious public health problem. Mercury can cause neurological and developmental disorders, especially for children and developing fetuses. Many Native American families in this region commonly consume more fish than the average fish consumption of the general population. Most of the lakes and rivers in our region have fish consumption advisories based on mercury contamination in the fish. A recent study concluded that Native Americans "tend to be higher consumers of fish, have elevated levels of mercury and PCB's, and may be at higher risk for health effects." The Fond du Lac Band is very concerned about this threat to their health and well being. Our Reservation has cooperated in several mercury studies of fish and the aquatic ecosystem. A study of mercury levels in fishermen and their families from our community has also been conducted in recent years. This study confirmed that those individuals consuming a greater amount of fish had an increased level of mercury in their blood. The mitigation technology being developed by our cooperative research project can provide a practical means to decrease mercury levels in fish and thereby to reduce this potential health threat.

The biotic uptake of mercury resulting in fish contamination in our lakes and rivers, and in Lake Superior, has the potential to devastate the sport fishing industry and subsistence use of the fishery. All of the states bordering the Great Lakes have fish consumption advisories on many water bodies, based primarily on mercury contamination of gamefish. The disruption of the sport fishing and related recreational business could potentially cost them millions. An effective, environmentally benign, and efficient method to use "environmental engineering" to prevent mercury from contaminating the aquatic food chain must be found. The federal funding of this research will prevent the decline of this important recreational and subsistence fishery and will derive benefits worth many times the initial investment.

Many of the contaminated sediment sites around the Great Lakes, including 34 of the 42 Areas of Concern (identified by the International Joint Commission) could benefit from development and application of an efficient mitigation methodology. This technology could provide a cost effective mitigation option to sites which cannot otherwise be remediated without very costly or environmentally disruptive dredging and landfilling.

Mercury contamination will continue to be a major environmental, health, and economic problem in the Great Lakes Region for many years. The levels of mercury in the region's waters and sediments is several times the pre-industrial level because of the airborne deposition onto watersheds. This contamination will continue to be a problem for many years, even if airborne deposition levels decline significantly. The accumulation of mercury in the sediments results in high concentrations in fish because of the "magnification" through each trophic level in the aquatic food chain. Mercury is a heavy metal which does not decompose, and it remains biologically active for many years within the top 6 to 12 inches of lake and river sediments. Even if the reductions of mercury in products and waste streams results in significant reductions in airborne levels of mercury, it will be many decades before the toxic affect of mercury contamination will allow mercury levels in fish to be at safer levels. The efforts to decrease airborne mercury levels is definitely necessary, however, practical means to decrease mercury levels in fish must be developed to address this problem in the interim. This mitigation technology would be effective for remediating water bodies with high mercury levels in sediments and also lakes with valuable game fisheries.

The focus on mercury contamination by the USEPA in its "Mercury Report to Congress" provides ample evidence of this serious environmental and public health problem. The recent initiative proposed by the President to clean our Nation's polluted waters will hopefully provide more resources to solve some of these problems. Although the USEPA has established the mercury problem as a high priority environmental and public health problem, we do not see sufficient research funds being available for mercury remediation research. Efforts to decrease the mercury from entering our air and water is obviously an important focus, however, the high levels of mercury on the watersheds and in sediments may require remediation to decrease mercury levels in our region's fish. The funds available to address the many serious environmental contamination problems in the Great Lakes region through the EPA Region V Great Lakes National Program Office (GLNPO) are inadequate. The funds should be increased substantially to provide the resources to conduct essential research, and to ensure Tribal involvement and participation. It is difficult for Tribes to compete with the priority of this agency to fund study proposals from the Great Lakes states. We believe that the current research being funded by GLNPO commonly focuses on seemingly never ending assessment studies, rather then innovative solutions to efficiently cleaning up contaminated sites and polluted waters. The EPA's Office of Research and Development unfortunately does not have a high priority on basic mercury research, even though the EPA recognizes this as a very serious long term environmental problem.

FISCAL YEAR 1999 INDIAN ENVIRONMENTAL GENERAL ASSISTANCE PROGRAM

We strongly support the Administration's request for $42.6 million in funds within the EPA's budget for the Indian Environmental General Assistance Program. This program funds a wide range of multi-media programs throughout Indian country.

In USEPA Region 5, the 32 Tribes have worked on a government-to-government basis with the Region 5 Administrator, to achieve Tribal environmental protection presence on each and every Reservation. The General Assistance Program has provided these Tribes the necessary resources to develop cooperative relationships with the Environmental Protection Agency, other federal agencies, as well as state and local agencies.

This written testimony is respectfully presented to the Senate Appropriations Committee, Subcommittee on Appropriations for VA, HUD, and Independent Agencies by

The Fond du Lac Band of Lake Superior Chippewa is requesting a total appropriation of $275,000 for fiscal year 1998 for both of the Sediment Contaminant Mitigation and Prevention for Mercury.

INTRODUCTION

The Fond du Lac Band of Lake Superior Chippewa is one of six Bands in the Minnesota Chippewa Tribe. The Fond du Lac Reservation was established by a Treaty with the United States Government on September 30, 1854 (Stat. 1109). The Fond du Lac Reservation encompasses approximately 100,000 acres, and is located 20 miles west of Duluth, Minnesota and the western end of Lake Superior.

The continuation of support for the Indian Housing Program is very important to the Fond du Lac Band. These funds from HUD are essential to build affordable housing for our Band Members. We urgently request that the Indian Housing Program be increased to address the need for additional housing or at a minimum to maintain the current funding levels. At the very least our funding level should stay the same, so that we can provide some of the needed housing to our Band Members. This would be of great benefit to our people.

The research project, Sediment Contaminant Mitigation and Prevention for Mercury will determine the best means to break the link in the aquatic ecosystem, by binding, covering, or removing the mercury and sediments from the sediments. Our cooperative research project between the Fond du Lac Natural Resource Program and the Univ. of Minn./Duluth research laboratory have the expertise in conducting the field work and laboratory analysis to carry out this research project. This project would require $275,000 for fiscal year 1999. It is imperative to discover a means to break the link in the aquatic food chain to prevent mercury from contaminating important game fish populations. The mitigation technology would be useful reduce the affect of these contaminants in highly contaminated sites, which are common throughout the Great Lakes, and on less contaminated sites with mercury from aerial deposition.

We strongly support the Administration's request for $42.6 million within the EPA's budget for the Indian Environmental General Assistance Program. This program funds a wide range of multi-media programs throughout Indian country. In USEPA Region V, the 32 Tribes have worked on a government-to-government basis with the Region 5 Administrator, to achieve Tribal environmental protection presence on each and every Reservation. The General Assistance Program has provided these Tribes the necessary resources to develop cooperative relationships with the Environmental Protection Agency, other federal agencies, as well as state and local agencies.

This written testimony is respectfully presented to the Senate Appropriations Committee, Subcommittee on Appropriations for VA, HUD, and Independent Agencies by Robert B. Peacock, Chairman of the Fond du Lac Band Lake Superior Chippewa.

SEDIMENT CONTAMINANT MITIGATION AND PREVENTION FOR MERCURY

STATEMENT OF THE PROBLEM

The continuing uptake of mercury into the aquatic food chain has contaminated the fish in our rivers and lakes. Fish Consumption Advisories issued by the Minnesota Health Department (MDH, 1997) establish meal limits based on this contaminant. Our assessment studies have quantified the extent of mercury contamination throughout the St. Louis River Watershed and have identified contaminated hot-spots in the six lower reservoirs. Significant mercury residues are observed in fish food chain organisms, especially in the Thomson Reservoir, (see Figures 1–6, Glass et al., 1997). Recently, it has been discovered that mercury levels in walleye from lakes on the Fond du Lac Reservation are also high in mercury. The transfer of contaminants from sediments into the aquatic food chain is significant and can occur through a variety of mechanisms. The ways and means to decrease and eliminate sediment borne contaminants from entering the aquatic food chain must be found, or the fish will continue to be too toxic to consume. These circumstances have serious long term consequences for the recreational and subsistence fishery in this region and in the Western Arm of Lake Superior. The ability to reduce these levels would decrease the health risk of neurological and developmental health problems for consumers of these fish.

Mercury contamination in sediments has been shown to be the primary source of mercury residue in fish from the lower St. Louis River, and is identified as an important toxic contaminant in the St. Louis River Area of Concern (Glass, et al. 1992., MPCA/WDNR, 1992). Mercury concentrations measured as a function of depth in sediment cores taken from the Thomson, Forbay, and Fond du Lac Reservoirs, in deep water depositional zones show large peak mercury concentrations where the maximum core depths represent a sediment accumulation since the early 1900's.

The highest sediment mercury concentrations generally occur in the deeper strata. However, two areas of the Thomson and Scanlon Reservoirs show high levels near the sediment surface, where the mercury can readily contaminate the lower trophic levels of the aquatic food chain. The concentration of mercury multiplies as it transfers up through the food chain. These two areas may contribute significant mercury amounts to fish and thereby human consumers. These findings prompted our research group to conduct a research program of mercury in sediments in the lower St. Louis River reservoirs with the purpose of identifying mercury source and toxicity mechanisms and mitigation mechanisms and options.

Mitigation options

Recent research on iron as a remediation material shows promise for mitigating mercury and PCB contaminated sediments (Agrawal and Tratnyek, 1996; Orth and Gillham, 1996). Various concentrations of iron will be applied using appropriate methods to the upper sediment layer.

PROJECT GOALS AND OBJECTIVES

The goal is to reduce the levels of mercury in game fish in an effort to decrease the toxicological risks to human health.

The objective of this project is to continue testing mercury mitigation technology in the reservoirs of the lower St. Louis River and to then apply the best mitigation approach to a small portion of a reservoir area for a pilot mitigation demonstration study. Mercury mitigation technology will also be tested in enclosures on a lake which has high levels of mercury in game fish. Tests will focus on reducing the amount of mercury entering the aquatic food chain thus resulting in lower mercury levels in game fish.

PROJECT DESCRIPTION

Source Mechanisms and Toxicity

a. Baseline data on mercury levels will be collected in water, sediment, benthos, and fish to assess and identify the degree of mercury in various components of the aquatic ecosystem.

b. The data from the monitoring of mercury levels in local precipitation, by the Fond du Lac Environmental Program, will be assessed to determine the influence of wet deposition on the local mercury cycle.

c. Modeling of mercury flux and the formation and sources of organic mercury compounds [ie. methyl mercury] in a reservoir and on a natural lake will be conducted to access the importance of these sources of contamination and to focus remediation efforts.

d. The model results together with data on the magnitude of various mercury compounds in contaminated sediment will be used to determine the most effective mitigation options.

Mitigation Mechanisms and Options

a. Laboratory tests and pilot field tests will be conducted on various methods of immobilizing sediments on identified contaminant hot spots on St. Louis River reservoirs. Fish, benthic organisms, water, and sediment from test areas will be analyzed to determine reductions in contaminant levels.

The mitigation strategies selected for demonstration testing must be cost effective and practicable to implement. The mitigation strategy to be demonstrated is the addition of contaminant binding substrates, such as iron. Recent research shows promise in utilizing iron treatment to alter the micro-environment of the mercuric compounds and transform them into less bio-accumulative or toxic forms.

b. Mitigation tests will also be conducted in enclosures on a moderately contaminated water body that has high levels of mercury in game fish. The results of field testing on this site will be compared to the effectiveness of tests on the highly contaminated sediments in the reservoir.

c. Methods which show significant reductions in toxic residues in fish will be further tested on sites with high test levels of contaminants to determine the effectiveness of this approach and applicability to whole water-body treatment.

PROJECT BENEFITS

A successful means to reduce this toxic contaminant in fish would protect human health. The results would be transferable to aquatic systems in other regions.

PROJECT COST

Fiscal year 1994—Fond du Lac received $70,000 for a St. Louis River Assessment Study.

Fiscal year 1995—Fond du Lac requested $275,000—received $100,000 from Congressional appropriation and $100,000 from Great Lakes National Program Office for phase 1 of mitigation study.

Fiscal year 1996—Fond du Lac requested $250,000—no additional funds were appropriated.

Fiscal year 1997 and 1998—$275,000 requested by Fond du Lac to continue research.

Fiscal year 1999—Requesting $275,000 to continue research in mercury mitigation technology.

REFERENCES

Agrawal, A. and Tratnyek, P.G. 1996. Reduction in Nitro Aromatic Compounds by Zero-Valent Iron Metal. ''Environmental Science and Technology.'' 30: 154–160.

Orth, W.S. and Gillham, R.W. 1996. Dechlorination of Trichlorethene in Aqueous Solution Using Feo. ''Environmental Science & Technology.'' 30:66–71.

MDH 1996. Minnesota Dept. of Health. Minneapolis MN 84 pp.

Glass, G.E., J.A. Sorensen, K.W. Schmidt and G.R. Rapp. Jr. 1990. New source, identification of mercury contamination in the Great Lakes, ''Environ. Sci. Technol.'' 24: 1059–1069.

Glass, G.E., Sorensen, J.A., Schmidt, K.W., Rapp, G.R. Jr., Huber, J.K. 1992. Mercury in the St. Louis River, Mississippi River, Crane Lake, and Sand Point Lake: Cycling, Distribution, and Sources. ''Report to the Legislative Commission on Minnesota Resources.'' Minn. Pollut. Ctrl. Agency, 520 Lafayette Rd., St. Paul, MN. 55155.

Glass, G.E., Sorensen, J.A., Rapp, Jr. G.R., Balcer, M., Schwarzkopf, L. 1997. Mercury Sub-Surface Maxima in Sediments: a Diagnostic for Anthropogenic Origins. In review, Springer Environmental Science Book Series.

MPCA/WDNR 1992. St. Louis River System Remedial Action Plan Stage One. Minn. Pollut. Cntrl Agcy., St. Paul, MN, and Wisc. Dept. of Nat. Res., Madison, WI.

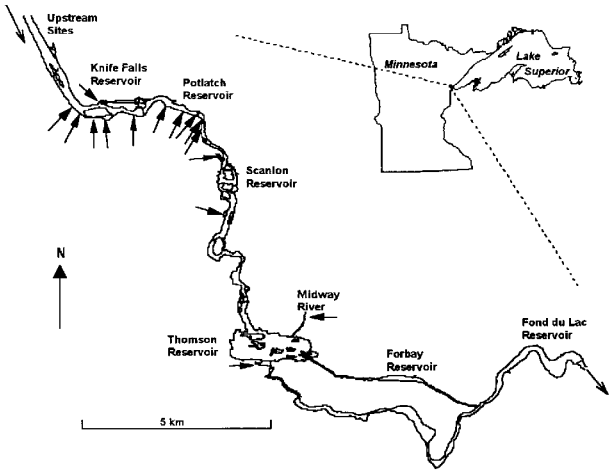

Figure 1 (from Sorensen et al., 1996). The lower portion of the St. Louis River showing study area. Bold areas show approximate points of former discharge of industrial and municipal wastes.

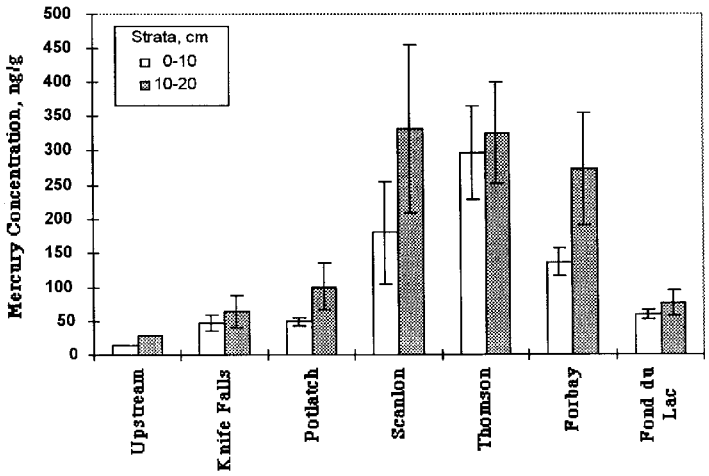

Figure 2 (from Sorensen et al., 1996). Average mercury concentrations in surface sediment layers within and upstream of the lower six reservoirs of the St. Louis River. Bars are standard errors.

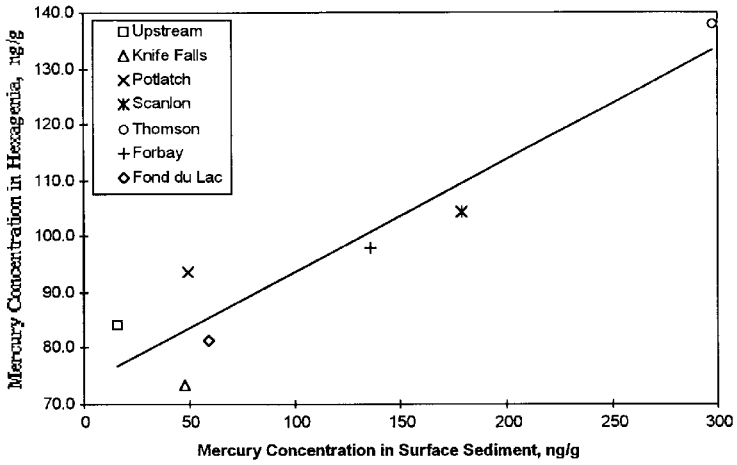

Figure 3 (from Sorensen et al, 1996). Relationship between average mercury concentrations (dry wt) in *Hexagenia* and surface sediment for the lower six reservoirs of the St. Louis River. Sediment averages are for the 0-10 cm strata.

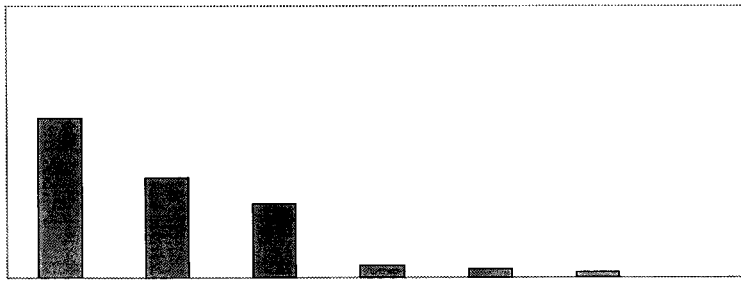

Figure 4. Average populations for various benthic organisms sampled from the indicated reservoirs.

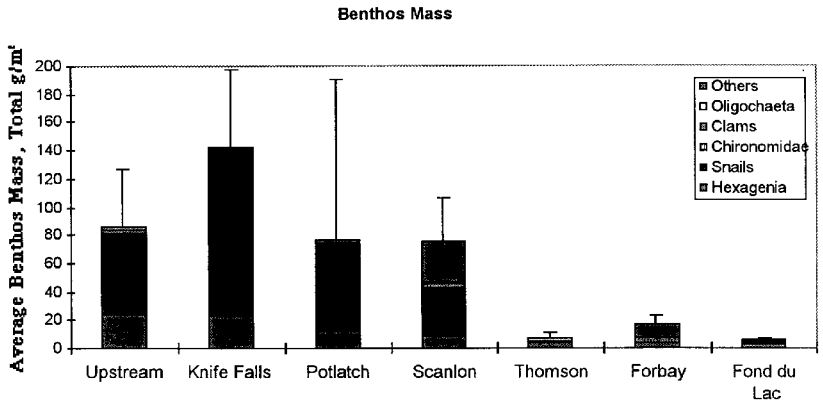

Figure 5. Average biomass for various benthic organisms sampled from the indicated reservoirs.

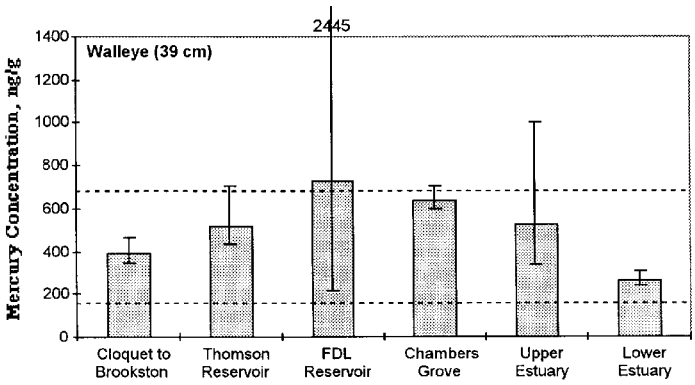

Figure 6. Mercury concentrations in standardized 39 cm walleye (upper panel) at various locations along the lower St. Louis River (Sorensen et al., 1992). Bars represent 95% confidence intervals. Dotted lines show cutoff values for Minnesota fish consumption advisories (0-160 ppb unlimited consumption, 160 - 660 ppb one meal /wk, 660 - 2800 one meal /mo).

RESOLUTION # 105/98

The Fond du Lac Reservation Business Committee, on behalf of the Fond du Lac Band of Lake Superior Chippewa, hereby enacts the following Resolution:

WHEREAS, the Fond du Lac Reservation is a sovereignty, created by the Treaty of September 30, 1854, 10 Stat. 1109, as the perpetual home of the Fond du Lac Band of Lake Superior Chippewa, which possesses the inherent jurisdiction and authority to exercise regulatory control within the boundaries of the Fond du Lac Reservation; and

WHEREAS, it is the sovereign obligation of the Fond du Lac Reservation Business Committee, as the Governing Body of the Fond du Lac Band, under the Indian Reorganization Act, 25 U.S.C. section 461 et seq., and in accordance with the Indian Self-Determination Act, 25 U.S.C. section 450 et seq., to assume responsibilities of self-government; and

WHEREAS the Fond du Lac Reservation Business Committee supports continued funding for the Indian Housing Program and is committed to providing affordable housing for Band Members, and

WHEREAS the Fond du Lac Reservation Business Committee is greatly concerned about protecting the aquatic resources and environment of the Fond du Lac Band of Lake Superior Chippewa, and is very concerned about the impact on the health of Fond du Lac Band Members from mercury contamination of the fish in this region, and

WHEREAS the Fond du Lac Natural Resources Program is cooperating on the study, Sediment Contaminant Mitigation and Prevention for Mercury, to find a practical means to prevent mercury from entering the aquatic food chain.

NOW THEREFORE BE IT RESOLVED, that the Fond du Lac Reservation Business Committee does fully support the Testimony to the Subcommittee on Appropriations for VA, HUD, and Independent Agencies for fiscal year 1999.

We do hereby certify that the foregoing Resolution was duly presented and enacted upon by a vote of 3 for, 0 against, a quorum of 4 being present at a Special Meeting of the Fond du Lac Reservation Business Committee held on March 3, 1998, on the Fond du Lac Reservation.

_____
Daryold Blacketter
Vice-Chairman

_____
Peter J. Defoe
Secretary/Treasurer

MEMORANDUM FROM HON. WILLARD M. MUNGER, MINNESOTA STATE REPRESENTATIVE

CONTINUED FUNDING FOR PROJECT: SEDIMENT CONTAMINANT MITIGATION PREVENTION FOR MERCURY

Larry Schwarzkopf, Manager of the Fond du Lac Natural Resources Program, along with colleagues from the University of Minnesota-Duluth and University of Wisconsin-Superior, have been cooperatively studying, various methods of preventing mercury contamination in aquatic sediments from getting into the food chain. Congress appropriated $100,000 for the first please of this study in 1996.

Their current research was successful in initial tests to utilize iron as a means to sequester mercury in contaminated or natural lake and river sediments so that the uptake of mercury into the food chain was reduced. Now they must test cost effective mitigation technologies on a larger scale in order to develop practical methods to be used full scale on lakes, rivers, reservoirs, and watersheds. The most cost effective and economical method will be tried on a large scale.

Mr. Schwarzkopf testifies before you today, Earth Day, to request additional funds for this expanded research. His proposal asks for $275,000 in fiscal year 1999 to continue the funding of the Sediment Contaminant Mitigation and Prevention for Mercury project either directly or through the U.S. Environmental Protection Agency.

I encourage you to support the project and Larry's funding proposal so that work can continue on this vital research. As I am sure you are aware, the conversion of mercury into methyl mercury in our northern lakes threatens not only the fish we eat but the fish-eating wildlife of our northern waters. We must continue to both reduce mercury in our environment and prevent it from entering the food chain.

Thank you in advance for your cooperation. Best wishes for a successful session.

LETTER FROM GEORGE R. RAPP, JR.

UNIVERSITY OF MINNESOTA-DULUTH,
Duluth, MN, March 16, 1998.

ROBERT B. PEACOCK,
Chairman, Fond du Lac Reservation,
Cloquet, MN.

DEAR CHAIRMAN PEACOCK: The problem of mercury contamination in our environment continues to be extremely serious. It has recently been shown to affect not only sensitive fish eating birds and animals at levels once thought to be safe, but humans as well. See the enclosed copy of a journal article entitled "Cognitive Deficit

in 7-Year-Old Children with Prenatal Exposure to Methylmercury" published in Neurotoxicology and Teratology, Vol. 19, pp. 417–428, 1997.

We are working to reduce the exposure of individuals catching and eating fish from Minnesota lakes by studying the factors that affect the rates of mercury bioaccumulation in fish. We find that airborne mercury is the primary source of mercury to Minnesota lakes and that mercury concentrations have been increasing in recent years.

In addition to atmospheric sources, mercury sources from contaminated sediments in the St. Louis River from past industrial uses are important sources of contamination to the fish-food chain and the fishery of the river. Ways and means must be found to reduce or eliminate these contributions from the sediment sources in order to affect a significant improvement in the river fish mercury residue levels.

We strongly support your initiatives to explore new ways to research solutions to this problem and will work with you, where possible, to reach a significant reduction in the levels of mercury presently contaminating the river and the fishery.

Sincerely,

George R. Rapp, Jr.,
Regent's Professor,
Director, Archaeometry Laboratory.

ELSEVIER

Neurotoxicology and Teratology, Vol. 19, No. 6, pp. 417–428, 1997
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Cognitive Deficit in 7-Year-Old Children with Prenatal Exposure to Methylmercury

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Received 10 March 1997; Accepted 26 August 1997

GRANDJEAN, P., P. WEIHE, R. F. WHITE, F. DEBES, S. ARAKI, K. YOKOYAMA, K. MURATA, N. SØRENSEN, R. DAHL AND P. J. JØRGENSEN. *Cognitive deficit in 7-year-old children with prenatal exposure to methylmercury.* NEUROTOXICOL TERATOL 19(6) 417–428, 1997.—A cohort of 1022 consecutive singleton births was generated during 1986–1987 in the Faroe Islands. Increased methylmercury exposure from maternal consumption of pilot whale meat was indicated by mercury concentrations in cord blood and maternal hair. At approximately 7 years of age, 917 of the children underwent detailed neurobehavioral examination. Neuropsychological tests included Finger Tapping; Hand-Eye Coordination; reaction time on a Continuous Performance Test; Wechsler Intelligence Scale for Children—Revised Digit Spans, Similarities, and Block Designs; Bender Visual Motor Gestalt Test; Boston Naming Test; and California Verbal Learning Test (Children). Clinical examination and neurophysiological testing did not reveal any clear-cut mercury-related abnormalities. However, mercury-related neuropsychological dysfunctions were most pronounced in the domains of language, attention, and memory, and to a lesser extent in visuospatial and motor functions. These associations remained after adjustment for covariates and after exclusion of children with maternal hair mercury concentrations above 10 μg/g (50 nmol/g). The effects on brain function associated with prenatal methylmercury exposure therefore appear widespread, and early dysfunction is detectable at exposure levels currently considered safe. © 1997 Elsevier Science Inc.

Environmental pollution Food contamination Methylmercury compounds Neuropsychological tests Prenatal exposure delayed effects Preschool child

METHYLMERCURY is a well-established neurotoxicant that can have serious adverse effects on the development and functioning of the human central nervous system, especially when exposure occurs prenatally (45). This pollutant is of considerable public health concern, because it is found in seafood and freshwater fish throughout the world (45). Given the potential threat that methylmercury poses to the optimal development of cognitive functioning, clinicians and regulatory agencies are concerned about the amount of methylmercury a pregnant woman can safely ingest (45,51).

It has been estimated that the risk of fetal brain damage increases when the mercury concentration in maternal scalp hair exceeds a level of 10–20 μg/g (50–100 nmol/g) (45). However, this threshold estimate was based on observations of crude abnormalities in infants whose mothers had ingested bread made from methylmercury-treated grain (11,43). In the

Requests for reprints should be addressed to Philippe Grandjean, Odense University, Winslowparken 17, 5000 Odense, Denmark. Tel: +45-6557-3769; Fax: +45-6591-1458; E-mail: p.grandjean@winsloew.ou.dk

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PREPARED STATEMENT OF JOHN R. WODRASKA, GENERAL MANAGER, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

FISCAL YEAR 1999 APPROPRIATIONS FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

The Metropolitan Water District of Southern California (MWD) is pleased to submit comments for the record, regarding programs contained in the U.S. Environmental Protection Agency's (EPA) fiscal year 1999 budget for your Subcommittee's hearing record.

MWD is responsible for meeting the supplemental water requirements of 16 million people living in the Southern California coastal plain and the economy which supports them. Our sources of water supply are the Colorado River and surface waters from Northern California. Of particular interest to MWD and our 27 member

agencies are those federal programs that provide assistance and facilitate partnerships for addressing critical water resources issues.

MWD urges that you provide the full amount authorized by Congress for the Safe Drinking Water Act State Revolving Fund for fiscal year 1999 and that you fully support the President's proposed fiscal year 1999 budget for other EPA programs benefiting drinking water quality. While significant progress has been made in improving the quality of our nation's water, many surface and ground waters do not meet water quality standards. Further, as our understanding of the relationship between the contaminants found in our water supply and their effect on human health increases and detection methods are improved, new risks have been uncovered. Adequate protection of drinking water quality requires research to identify contaminant sources and effective control methods, financial assistance for implementation of end-of-the-pipe treatment and source water protection measures, and compliance monitoring to ensure existing laws and regulations are upheld.

DRINKING WATER AND SOURCE WATER PROTECTION ACTIVITIES

Source water protection is key to ensuring a safe and healthy drinking water supply and provides an important contaminant ''barrier''. The Safe Drinking Water Act (SDWA) Amendments of 1996 recognized the importance of protection activities and created a new voluntary source water protection program. Protection, however, begins with assessment of potential sources of contamination and the vulnerability of drinking water supplies to those contaminants. Such assessments are important to both the goals of the SDWA and Clean Water Act and help ensure that resources are targeted where they are likely to have the greatest effect. MWD asks you to supports the President's request for $13.7 million for source water assessment activities.

EPA's budget also includes funding for increased assistance to states to help develop and implement watershed management plans and for other activities related to watershed management. The watershed approach addresses water quality problems in an integrated fashion and facilitates protection efforts. California is finalizing its own Watershed Management Initiative which has already been implemented in some parts of the State. We ask that you support EPA's budget request for watershed management activities.

Further, we urge your support of EPA's request for $46.4 million for pollution prevention technologies. Utilization of technologies which are less or non-polluting is a core element of source water protection, and these technologies can significantly reduce the costs which would otherwise be incurred to remove contaminants released into the environment by less-efficient processes. EPA's pollution prevention program will facilitate development and adoption of more-efficient technologies.

STATE REVOLVING FUNDS

The 1996 amendments to SDWA made available, for the first time, low-cost financing for drinking water infrastructure and source water protection projects through a drinking water State Revolving Fund (SDWA–SRF). The SDWA–SRF also provides funding for source water assessment, water supply operator training, implementation of ''capacity development'' programs, and health effects research. Adequate funding for all of these activities is essential, and MWD strongly urges that you provide $1 billion for the SDWA–SRF, the amount authorized by Congress for fiscal year 1999. This amount, while greater than the amount requested in the President's budget, is still only a small fraction of the funding needed by drinking water suppliers to meet existing Safe Drinking Water Act requirements.

In California alone, water suppliers have identified projects totaling in excess of $7 billion that could benefit from the SDWA–SRF. Nationwide, community water systems estimate they must invest over $138 billion over the next 20 years to ensure delivery of safe drinking water. Of this amount, approximately $12 billion is needed to meet current SDWA requirements. Low-cost financing for projects which ensure safe drinking water supplies is critical for protecting the health of the more than 240 million Americans served by public water systems.

Significant investments are also needed to repair and replace aging municipal wastewater infrastructure as well as to meet the needs of future population growth. Low-cost financing is necessary to support the estimated $137 billion of municipal water quality infrastructure needs over the next 20 years as well as capital investments to protect against nonpoint pollution sources. The President has requested $1.075 billion for fiscal year 1999 for the Clean Water Act State Revolving Fund (CWA–SRF) to support such activities which are also vital for ensuring protection of drinking water sources. MWD asks that you support the President's budget request.

NONPOINT SOURCE GRANTS

Another critical source of funding for source water protection projects is grants under the Clean Water Act's Section 319 Nonpoint Source Program (NPS). NPS grants are particularly important for smaller projects and projects where debt financing is unsuitable. Further, the NPS grant program is necessary to support the many watershed management activities fostered by the states. Consistent with the actions described in the Clean Water Initiative, the President has requested $200 million for NPS grants for fiscal year 1999, and MWD requests your support at the level in the President's budget.

Other EPA grant programs which help maintain or improve water quality and need your support are the CWA Section 106 Control Agency Resource Supplemental Grants ($115.5 million), Wetlands Program Development Grants ($15 million), and the Water Quality Cooperative Agreements (WQCA; $19 million). Among other activities, section 106 grants provide funding for monitoring, water quality planning, and development of Total Maximum Daily Loads for impaired water bodies. The wetlands grants program will enable EPA to meet its goal of a net gain of 100,000 acres of wetlands by the year 2005. Wetlands provide an important cleansing mechanism which can protect drinking water sources. WQCA provides funding to address water quality problems created by storm water, combined sewer overflows, and confined animal operations, all of which potentially threaten drinking water sources. Your support for the President's fiscal year 1999 budget request for the above programs will enable EPA to carry out its mission.

We also ask that you restore funding of $20 million for the CWA Section 314 Clean Lakes Program. Activities for this program are now funded from the Section 319 NPS Grant Program. While lakes have benefited from 319 funding, they have rarely been the focus of the grant projects. Lakes present unique water quality problems since they serve as settling basins and allow nutrients to accumulate. Some lakes serve as drinking water reservoirs and management of these reservoirs presents unique challenges for both protecting drinking water beneficial uses and aquatic resources. Restoring funding for the Clean Lakes Program will provide dedicated funding for this water resource.

DRINKING WATER RESEARCH

Scientifically sound research provides the underpinnings for effective drinking water quality programs and MWD asks you to fully support various EPA water quality-related research programs. EPA's fiscal year 1999 budget, under its strategic goal of clean and safe water, includes $35.6 million for drinking water research. This research agenda includes development of dose-response relationships for disinfectant by-products (DBP), waterborne pathogens, and arsenic. EPA is required to re-evaluate the standard for arsenic, and is in the process of promulgating revised regulations for DBP's and pathogens. Dose-response data is critical for the development of drinking water standards which protect public health in a cost-effective manner. Other important activities which are part of EPA's clean and safe water goal include research on sensitive sub-populations, treatment and maintenance of the distribution system to protect against microbial intrusion, and assessment of non-DBP drinking water contaminants.

MWD also requests your support for EPA's budget request of $47.6 million for its Human Health Risk Assessment program. Under this program, EPA will develop approaches for more biologically defensible health assessments instead of relying on default assumptions which may be at variance with known mechanistic data. The program will also carry out research on sensitive sub-populations, particularly children and infants, and will develop improved methods for measuring total exposure from multimedia sources and multi-pathways. This research will help bring better science to the risk assessment process used in the development of drinking water standards.

EPA's 1999 budget includes $55.4 million for research into Emerging Risk Issues such as endocrine disruptors. Endocrine disruptors can cause adverse reproductive outcomes affecting both human and ecologic health. The Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC), a stakeholder group formed by EPA to develop screening and testing recommendations, has identified DBP's as one of the chemical classes which should be subject to early testing. DBP's are formed as part of the disinfection process for drinking water. Disinfection is necessary to protect against microbial disease and has been responsible for the virtual elimination of widespread outbreaks of waterborne disease in the U.S.

AMERICAN WATER WORKS RESEARCH ASSOCIATION FOUNDATION (AWWARF)

AWWARF has separately requested that $5 million in drinking water research funds be specifically designated for drinking water research by AWWARF, including $1 million for arsenic research. AWWARF and public water suppliers will provide 100 percent matching funds, and thus offer an opportunity to leverage EPA's research program. We strongly urge that you make this designation.

PERCHLORATE TREATMENT RESEARCH

The American Water Works Research Foundation (AWWARF) and others have requested $2,650,000 for research to be conducted through East Valley Water District in San Bernardino, California, on treatment technologies to remove perchlorate from drinking water supplies. Perchlorate, which is used in the manufacture of munitions and rocket fuel, can interfere with thyroid activity and is associated with adverse reproductive outcomes. Perchlorate has been found in drinking water wells throughout California, resulting in well closures, and may be of concern in other parts of the country. We urge you to support this funding request for this critically needed research.

OTHER RESEARCH PROGRAMS

We ask that you support EPA's request for $85.5 million for the Ecosystem Protection Research program. This research will help increase our understanding of current environmental conditions, the stressors that affect current conditions, and options for ecosystem management. This research should also help our understanding of fragile aquatic ecosystems such as the Sacramento San Joaquin Bay-Delta which is the source of part of MWD's imported water supplies.

DRINKING WATER—PUBLIC WATER SYSTEMS SUPERVISION PROGRAM GRANTS

EPA's 1999 budget allocates$93.8 million for Public Water Systems Supervision Program grants. This funding is necessary for states with primary enforcement responsibilities to carry out their duties, including implementation of the 1996 SDWA regulations. Additional resources will be necessary to implement the changes resulting from the 1996 SDWA amendments, and we ask that you support the requested funding level..

COMPLIANCE

While MWD favors encouraging voluntary actions to reduce pollution, we recognize that strong enforcement of water quality regulations is critical for reducing non-compliance. MWD fully supports EPA's approach which couples compliance incentives and assistance programs with vigorous enforcement, where necessary. We ask that you support the President's request of $331.0 million for compliance-related activities.

I thank you for this opportunity to offer our comments on the fiscal 1999 appropriations for the EPA. If we can answer any questions or provide additional information, please contact Brad Hiltscher, MWD's Legislative Representative in Washington, D.C. at (202) 296–3551.

PREPARED STATEMENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

ENHANCED INTERAGENCY MULTI-DISCIPLINARY STRATEGY

A critical element of the Museum's ongoing scientific research and educational programming is an interagency and multi-disciplinary approach, consistent with the federal government's own stated commitment to an interagency and multi-disciplinary direction in these areas. The Museum has several vehicles to achieve these goals: the National Center for Science Literacy, Education and Technology ("The National Center") and the Center for Biodiversity and Conservation among them. The partnership and collaboration between the scientific and educational resources of NASA and the National Center and its partners has been exceptional. It is now time to further develop the involvement and participation of other appropriate and relevant federal agencies, such as the Environmental Protection Agency (EPA) and Department of Energy (DOE).

THE ENVIRONMENTAL PROTECTION AGENCY ROLE

The EPA has been playing a leadership role in environmental science and technology, biodiversity, education, and training, making the EPA an invaluable partner

and participant with the American Museum of Natural History and its National Center for Science Literacy, Education, and Technology.

The Museum and its Center for Biodiversity and Conservation are extensively involved in global environmental research, education and training and in a broad range of biodiversity initiatives. The National Center has developed the much-heralded "Biodiversity Counts: Student Inventory Project." Working in close cooperation with both the Center for Biodiversity and the National Center, we are developing an entirely new world class exhibition facility—The Hall of Biodiversity (opening in May, 1998)—where cutting edge technology will be utilized to translate science to the public and advance the National Center's educational outreach initiatives.

I. Programmatic Activities: Research, Exhibition And Education

Overall, the objectives of this component of the EPA partnership can be characterized as the further development of a sound scientific underpinning for environmental risk research; expanded educational outreach and the translation of science for the general citizenry, especially schoolchildren; and the development of innovative approaches for addressing critical environmental and scientific challenges.

The Center for Biodiversity.—The Museum sponsors a collaborative effort among various departments for the study of biodiversity and conservation methods and disseminates its data to local, national, and international governments, research and educational institutions, and community groups. The Center's activities include the study of biological data relevant to the conservation of threatened species, the development of the infrastructure needed to maintain conservation programs, and the integration of scientific data into the field of conservation. The Center also sponsors a Graduate Training Program which offers fieldwork training programs for students from all over the world. Additionally, the Center makes grants available to Museum curators for a variety of conservation projects that demonstrate the role of science in conservation. This Center also focuses on the relationship between the loss of biodiversity and its affects on human health. For instance, the Museum's recently published book, "Biodiversity and Human Health," examines the ways in which the destruction of threatened plant and animal species increase human exposure to disease and infection.

Environmental Science and Educational Activities.—Further development and expansion of programs such as "Biodiversity Counts," a project which is now being pilot tested in almost two dozen schools across the nation is ongoing, to allow middle-school students to conduct their own biodiversity inventory of local environments. By the fall of 1998, the number of participating schools throughout the country will reach close to 100. Students observe species behavior and collect data, and examine plants and insects that live in their immediate surroundings. They take measurements and make identifications and analyses, and then share their findings on a national student database on the World Wide Web. They share observations and interests in an on-line field journal and in on-line discussion groups. The main purpose of this program is to enable children to participate actively and directly in the process of scientific investigation.

Environmental Science Education and Curriculum Development.—The Museum has an unusual opportunity and responsibility to encourage audiences of all ages and interests to explore the wonders of the natural world and to experience the excitement and adventure of science. With schools, our focus is on aligning the Museum's educational efforts with initiatives that can support and improve science education: linking the Museum's content resources (its vast collections, library, exhibitions, science research and educations staff—see Exhibit A) to the latest curriculum standards and frameworks, designing professional development programs for teachers, providing carefully crafted training sessions for science teachers, and exploring ways to use technology to sustain relationships with students, teachers and families.

Endangered Species and Environmental Habitats.—In concert with the goals of the EPA, the Museum is committed to research and exhibition in the area of endangerment and extinction. In this regard, the Museum is proud to include among its resources two research stations:

—The Southwestern Research Station, where Museum scientists and others participate in detailed studies of the ecology and biological diversity of the Chiracahua Mountains in Southeastern Arizona.

—The Great Gull Island Project, where the Museum has been undertaking a focused study of threatened species (the largest nesting population of Common and Roseate Terns) and the effects of pollution on threatened species.

Ecological Contagions and Infectious Disease.—The Museum plans a major exhibition on infectious diseases for early 1999 which will take the visitor, teacher, school group, and family through a story from exposure to infection, outbreak, epidemic and pandemic. At each stage, the Museum will discuss the interactions be-

tween the ecological, evolutionary and cultural perspectives. Understanding how infectious disease is related to ecology and ecosystems is one of the main themes. To illuminate this theme we will explore the world of microbes and how natural events such as El Niño change ecosystems and therefore change the human/microbe interaction. The American Museum of Natural History has long been involved in public health education and this exhibit will go a long way to informing the public about infectious diseases.

II. Laboratory and Instrumentation Collaboration

With the goal of maintaining its international leadership in scientific research and education, the American Museum of Natural History continues to make the investments necessary to provide state of the art, technologically-based, research and public facilities. A new, centrally located Natural Sciences Building being financed by the Museum, the City of New York, and the private sector is currently under construction to provide critically needed space to house additional public education infrastructure, laboratories, and collection storage areas critical to advancing the Museum's increasingly interdisciplinary research efforts.

Digital Imaging and Visualization Analysis Laboratory.—The Museum would utilize funding to further establish and develop a Digital Visualization Analysis Laboratory in the new Natural Sciences Building. Recent developments in digital technologies make imaging and analytical methods critical multi-disciplinary research tools. These imaging technologies are being utilized in virtually every scientific discipline within the Museum. These technologies have brought exciting applications in the development and design of our exhibitions and educational programs, as well as in our core scientific research and collections mission. A state of the art digital analytical facility does not now exist in any natural history museum in the world.

The Museum has already won a national competition for a new Scanning Electron Microscope, where the National Science Foundation recognized the value and the potential of equipping a comprehensive research museum like the Museum with such state of the art instrumentation. The Museum now seeks to expand its capacity and enhance its capabilities in virtual reality visualization, scanning, tunneling, microscropy, atomic force microscopy, and to develop the capability to absorb and integrate new visualization technologies. These technologies represent exciting means for studying specimens and collecting much needed analytical data. The implications for the dissemination of research, for improving the quality and variety of information collected, and for expanded access, and for distance learning techniques are enormous.

The Molecular Systematics Laboratory.—The Museum currently has two Molecular Systematics Laboratories, where more than twenty investigators study a broad range of topics, from the systematics of population genetics of whales to those of African plants. There is scarcely a collection-based scientist today whose work does not have a molecular component.

We plan to expand the laboratory to include frozen samples, with the aim of building comprehensive frozen tissue collection. A collection of this scale does not exist anywhere today, but would quickly become a national and international resource for comparative study of biomolecules and their potential uses, as well as DNA. It is critical that these elements of biodiversity be preserved for future genetic and phylogenetic analysis. Collections that are representative of as much of an area's biodiversity as possible or which encompass significant taxonomic breadth will be essential for the future growth of our knowledge about organisms and their environments (see UNCED accords, Systematics Agenda 2000 and the Sustainable Biodiversity Initiative). Collections such as the one we propose will contribute to the study of biology and biodiversity by preserving the genetic resources that will be available to investigators far into the future. We also suggest establishing a geographically based, publicly accessible Web site that enables users anywhere to access the available information.

THE DEPARTMENT OF ENERGY ROLE

One of the four primary strategic goals of the DOE is to utilize its assets to advance the nation's science literacy. In addition to our mutual commitment to science literacy, the American Museum of Natural History and DOE share several other joint goals, including: making science/scientific enterprise more accessible to a large and diverse audience; harnessing the power of technology to support science, exhibition and education; and enhancing the diversity of the science workforce working with schools, parents and the community. The DOE has enormous resources that can support the activities of the American Museum's science, exhibition and education programs. In partnership with DOE, the Museum would significantly ad-

vance the public's access to the expertise, data and technology that has been developed by DOE.

The DOE has traditionally been one of the major sources of support for research and laboratory instrumentation equipment. The types of laboratories and instrumentation that we have outlined are indeed consistent with the DOE's mission. The Molecular Systematics Laboratory and the Digital Imaging and Visualization Analysis Laboratory are both critical tools to basic energy research, the human genome project, and the DOE's biomedical and environmental research function (the BER account).

I. Programmatic activities: Research, exhibition and education

The Hall of Planet Earth.—This first of a kind exhibition will explore key questions such as: How has the Earth changed through time; why do ocean basins continents, and mountains exist; what causes climate change; and why is the Earth habitable. As part of the exhibition the question of natural resources will be explored: what are they; what resources are necessary to generate energy (oil, coal, geothermal); where are they located; and how are they formed.

Partnership with Los Alamos.—The Museum has established a partnership with the DOE Los Alamos National Lab to create exhibit elements for the Hall of Planet Earth. Los Alamos scientists will create five videos based on five models created at Los Alamos: Core convection and the generation of the Earth's magnetic field; Mantel Convection; Global Ocean Circulation; Flow-through Porous Media (earth crust process); Atmospheric Circulation. The Museum seeks to expand and deepen its partnerships with DOE labs to interpret, explain, and disseminate their important work to the public through the Museum's exhibition halls and the National Center's outreach.

Human Biology and DNA Research.—The Museum currently has a significant concentration of biologists on staff, and supports two state-of-the-art molecular laboratories that conduct DNA research.

In addition, the Hall of Human Biology and Evolution at the Museum is a major resource for the public, especially students. The Human Genome Project of the DOE is an important endeavor. We propose to assist the DOE to translate and disseminate its findings to the public through a "Genetics-Bulletin." This Bulletin will collect, interpret, and transform data and images into comprehensive digital "snapshots" of events, research, and phenomena in the field of genetics.

Training.—Data from the National Science Foundation lends support to the urgency of our goal of training the next generation of scientists. Currently, the Museum, in collaboration with Yale, Cornell, Columbia, New York University, and the City University of New York, sponsors one of the oldest and largest Museum-based graduate and post-graduate training programs of any science museum in the country.

Science Education and Curriculum Development.—The Museum has an unusual opportunity and responsibility to encourage audiences of all ages and interests to explore the wonders of the natural world and to experience the excitement and adventure of science. With schools, our focus is on aligning the Museum's educational efforts with initiatives that can support and improve science education: linking the Museum's content resources (its vast collections, library, exhibitions, science research and educations staff—see Exhibit A) to the latest curriculum standards and frameworks, designing professional development programs for teachers, providing carefully crafted training sessions for science teachers, and exploring ways to use technology to sustain relationships with students, teachers and families.

The Museum will develop curriculum on geology, earth sciences, and modeling. The Museum now has three million visitors each year, including more than 500,000 children visiting in school groups. We also sponsor pre-service and in-service training for teachers. The subjects of study by the DOE are of great relevance to the curriculum. A partnership with DOE in this area will bring the data and images developed by DOE to the public.

II. Laboratory and Instrumentation Collaboration

Human Genome Project.—One of the goals of the DOE sponsored Human Genome Project is to learn about nonhuman organisms' DNA sequences. This, can lead to an understanding of their natural capabilities that can be applied toward solving challenges in health care, energy sources, and environmental cleanup.

The Museum currently has two Molecular Systematics Laboratories. There are currently more than twenty investigators studying a broad range of topics, from the systematics of the population genetics of African plants to those of whales. There is scarcely a collection-based scientist today whose work does not have a molecular component. We propose to expand the laboratory to include frozen tissue samples,

with the aim of building a comprehensive frozen tissue collection. A collection of this scale does not exist anywhere today, but would quickly become a national and international resource for the comparative study of biomolecules and their potential uses, as well as DNA. We also suggest establishing a geographically based, publicly accessible Web site that enables users anywhere to access the available information.

Digital Imaging and Visualization Analysis Laboratory.—The Museum would utilize funding to further establish and develop a Digital Imaging and Visualization Analysis Laboratory in the new Natural Sciences Building. Recent developments in digital technologies make imaging and analytical methods critical multi-disciplinary research tools. These imaging technologies are being utilized in virtually every scientific discipline within the Museum. These technologies have brought exciting applications in the development and design of our exhibitions and educational programs, as well as in our core scientific research and collections mission. A state of the art digital analytical facility does not now exist in any natural history museum in the world.

The Museum has already won a national competition for a new Scanning Electron Microscope, where the National Science Foundation recognized the value and the potential of equipping a comprehensive research museum like the Museum with such state of the art instrumentation. The Museum now seeks to expand its capacity and enhance its capabilities in virtual reality visualization, scanning, tunneling, microscropy, atomic force microscopy, and to develop the capability to absorb and integrate new visualization technologies. These technologies represent exciting means for studying specimens and collecting much needed analytical data. The implications for the dissemination of research, for improving the quality and variety of information collected, and for expanded access, and for distance learning techniques are enormous.

EXHIBIT A

THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History, founded in 1869, is well positioned as a partner for the federal government. The resources at the Museum's disposal include:

—an extraordinary collection of more than 32 million artifacts and specimens, the cumulative product of acquisitions and more than 1,000 major national and international field expeditions sponsored by the Museum throughout its history;

—more than 200 active research scientists who possess top-ranked international expertise in many fields;

—an internationally renowned research arm: The Center for Biodiversity and Conservation;

—a newly created educational vehicle: National Center for Science Literacy, Education, and Technology;

—a new Hall of Biodiversity (opening May, 1998) dedicated to educating the public about biodiversity and its critical role in maintaining life on Earth;

—the long-respected Hayden Planetarium, soon to be completely updated as part of the Rose Center for Earth and Space, which also includes a new Hall of the Universe and a new Hall of Planet Earth, and which is adjacent to the new Hall of Biodiversity;

—3 million visitors annually, of whom 1.5 million are children, including 500,000 schoolchildren visiting in school groups;

—the largest natural history library in the western hemisphere, including a special collection devoted to astrophysics;

—a tradition of creating some of the greatest scientific and anthropological exhibitions in the world in its 1.2 million square feet of exhibition space;

—a staff of educators who seek to inspire curiosity and a desire to learn in both children and adults; and

—an institutional reputation for the highest standards of quality, accuracy, integrity, and reliability.

With the establishment of the National Center for Science Literacy, Education, and Technology, the Museum recognizes an opportunity to match its incomparable resources to the pressing nationwide need to increase science literacy and foster scientific achievement. The National Center creates materials and programs that reach beyond the Museum's walls into homes, schools, museums, and community organizations around the nation, developing ways to use distance technologies to link citizens of all ages with the scientific and educational resources the Museum can provide.

PREPARED STATEMENT OF THE AMERICAN CHEMICAL SOCIETY

The American Chemical Society calls on Congress to provide the Environmental Protection Agency's Office of Research and Development (EPA's ORD) with a budget of not less than $614 million in fiscal year 1999 in order to provide the Agency with the scientific support needed to carry out its mission. This recommendation of a $40 million, or 7 percent, increase above the fiscal year 1998 operating level for EPA's ORD is supported by an effort of the leaders of 110 scientific, engineering, and higher education organizations to double the federal research budget in the next ten years.

For the American Chemical Society, ORD is the highest priority in the EPA budget because of its important role in supporting research that will increase the scientific knowledge needed to solve the nation's environmental problems. The ORD budget, therefore, should be increased even at the expense of other EPA programs. The additional monies could be well spent if used for pollution prevention research as well as for identifying and avoiding future environmental problems.

While the American Chemical Society believes that the ORD[1] funding level of $527 million proposed by the Administration will not provide for adequate resources, the Society does support initiatives in this budget proposal that strengthen both in-house and extramural research, and that address problems of greatest risk or with the greatest potential to reduce risk. The Administration's fiscal year 1999 budget request is expected to support the following programs and activities:

—The Science to Achieve Results program will fund extramural grants and fellowships, which are awarded in peer-reviewed competitions to conduct important research related to EPA needs.

—In-house research will be strengthened through a new postdoctoral fellowship program that brings in highly trained scientists and engineers with state-of-the art knowledge and techniques.

—Work will continue to reduce uncertainties in priority areas such as risks to children, endocrine disruptors, pfiesteria, drinking water disinfectant byproducts and microbes, particulate matter, and urban toxics, as well as to provide sound science for decisionmaking in implementing the 1996 food safety and safe drinking water laws.

—Research will lead to a better understanding of climate change stresses on the ecosystem and human health.

—New monitoring and measurement technologies for pollution prevention will be developed and introduced.

The Superfund Account also transfers funds for research purposes to the National Institute of Environmental Health Sciences and to the Agency for Toxic Substances and Disease Registry. These transfers should be supported at least at the fiscal year 1998 level of funding—$35 million and $74 million, respectively.

Support for increases above the Administration's request for the Science and Technology Account and for transfers for research from the Superfund Account will help to secure the quality science and research needed for sound decisionmaking and cost-effective regulations. The American Chemical Society urges the Congress to provide a strong science budget for EPA.

PREPARED STATEMENT OF RAYMOND J. CAMPION, PH.D. PRESIDENT, MICKEY LELAND NATIONAL URBAN AIR TOXICS RESEARCH CENTER

SUMMARY

Legislative authorization.—Clean Air Act Amendments of 1990 (Title III, Sec. 301).

Mission.—Study the health effects of the 189 air toxics designated in the Clean Air Act, via sound, peer-reviewed health and environmental research designed to address regulatory needs. Current emphasis is on the assessment of actual human exposures to air toxics.

Current request.—$2.6M via EPA in fiscal year 1999.

Anticipated funding.—$2.0M via EPA fiscal year 1998 Assistance Grant, received April 1998.

Past record of Federalgrants received.—$1.15M via fiscal year 1997 Assistance Grant from EPA Office of Research and Development (ORD), National Center for Extramural Research and Quality Assurance (NCERQA), received October 1997.

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[1] ORD's budget is comprised of transfers from Appropriation Accounts, primarily Science and Technology ($485 million in fiscal year 1999) and Superfund ($40 million, up $5 million from fiscal year 1998 enacted).

$480,000 via fiscal year 1996 Assistance Grant from EPA ORD/NCERQA (as above), received January, 1997.

Research projects.—

1. Human exposures to gaseous air toxics in the outdoor, indoor and personal environments in a major NUATRC field study.

2. Participation in CDC's National Health and Nutrition Examination Survey (NHANES) via personal exposure assessments on NHANES subjects.

3. Feasibility studies on human exposure research involving air toxic metals.

4. Initiation of acute human health effects research, with the emphasis on effects on the human respiratory and immune systems.

THE MICKEY LELAND NATIONAL URBAN AIR TOXICS RESEARCH CENTER

Mr. Chairman, and Members of the Subcommittee, thank you for the opportunity to provide this written testimony on behalf of The Mickey Leland National Urban Air Toxics Research Center (NUATRC). My name is Dr. Raymond J. Campion, and I am the President of the Leland Center, "the Center."

The Center was established under Title III, Section 301 of the Clean Air Act Amendments of 1990 as a non-profit, public/private research entity, with the mission of developing new multidisciplinary scientific approaches to assessing the potential public health risks from exposure to air toxics. Our effort is designed to provide independent, sound scientific data for prioritizing toxic risks. Environmental Protection Agency (EPA) is required to determine, over a 8–9 year time frame, the residual health risks present to the American public from toxic materials.

The NUATRC has been operational for about five years, and receives EPA assistance awards based on Congressional appropriations. Private sector funding along with joint work with state and local agencies is used to leverage these federal monies, with national industrial firms being the major contributors. The Center has used these monies to develop a small staff, utilizing an administrative service agreement with The University of Texas-Houston Health Science Center. This arrangement allows the Center to take advantage of the scientific synergies created by this relationship with The University of Texas and the Texas Medical Center, as directed in the Clean Air Act authorization language.

In this testimony, we will provide an update of our strategic research directions, in order to meet our Congressional charge in a cost-effective and scientifically-sound manner. We continue to focus our research in several areas, in which we believe we can have the greatest impact. As a small and relatively new entity, we believe it is important to focus our efforts to provide the greatest potential payout in terms of environmental and public health advances. These focused research areas are:

—human exposure assessment in the indoor and outdoor environment, with an emphasis on volatile organic compounds (VOC), aldehydes and toxic metals on particles,

—characterization of acute health effects from air toxics exposures, primarily associated with the respiratory and immune systems.

STRATEGIC RESEARCH DIRECTIONS

The NUATRC has made continuous progress over the past four years in addressing the Congressional charge to carry out a well-designed and focused research program on air toxics health effects. The NUATRC has profited significantly from the advice and counsel of our Board of Directors, appointed by Congress and the President, and from the research direction of the NUATRC Scientific Advisory Panel. The Panel, drawn from nationally-prominent academic and private sector scientists as well as EPA scientists, has defined a prioritized research program that recognizes the major needs in air toxics research as well as the range of expertise of organizations like NUATRC to address those needs. A major component of our activity is to reach out and involve other national scientific resources in leveraged efforts to most efficiently and collegially carry out these investigations. Through national workshops and symposia, with publication in the peer-reviewed literature of the findings of these studies, we have established a national scientific presence. We have interacted with the Centers for Disease Control (CDC) via their National Center for Health Statistics (NCHS), the National Institute for Environmental Health Science (NIEHS), the Health Effects Institute (HEI) and the EPA to assure that our research directions are complementary to these larger organizations. Both HEI and EPA have recently begun to work with academic scientists under NUATRC grants to further leverage and broaden the scope of the Center's research.

HUMAN EXPOSURE ASSESSMENT

We reported to you last year a significant research result from our two-year feasibility study on personal exposure assessment technology development which demonstrated:

(1) That simple, inexpensive 'passive' dosimeters can be used in urban population field studies to assess actual human exposures to specific air toxics such as benzene and toluene.

(2) That the relative importance of indoor, outdoor and personal exposures can be assessed under a variety of conditions, to allow the data obtained to be well understood in terms of experimental variables such as temperature and humidity.

The Center now has two major research programs extending the developmental work now being conducted by Columbia and Environmental & Occupational Health Sciences Institute (EOHSI) in New Jersey. Both of these programs are underway in urban areas of Houston, Los Angeles and New York City. The research carried out will characterize the personal exposures to VOC's and metals on airborne particles to which individuals living in these areas are exposed. The work will address how these exposures are influenced by indoor and outdoor sources, as well as determining the relative importance of mobile, point and area emissions. These data will then be factored into risk assessments to establish the most cost-effective means of reducing public health risks.

The NUATRC is also about to sign a contract with the NCHS to participate in the National Health and Nutrition Examination Survey (NHANES). We view this as an excellent opportunity to gather personal environmental data at the same time as public health data are being obtained on a statistically significant portion of the U.S. population. We are committing $150,000 annually to this effort, which again will be focused on determining the actual public health risks associated with air toxics.

NUATRC RESEARCH ON TOXIC METALS ON PARTICLES

In addition to the Center's ongoing research at Columbia and EOHSI on individual personal exposures to gaseous VOC's and aldehydes, the Center has restructured its research plans for 1998–2000 to emphasize peer-reviewed work on personal exposures to particles, and specifically the toxic metal component of that particulate matter. The Center has received approval from its Board of Directors to sponsor two new exposure research programs in 1998, that address the toxic metal-particle issue. Data from these studies and the two comprehensive personal exposure studies now underway at Columbia and EOHSI will be available for incorporation in the next National Research Council (NRC)/EPA review of the particulate standard.

The NRC, has just published its Congressionally-mandated report, "Research Priorities For Airborne Particulate Matter: Immediate Priorities and a Long-Range Research Portfolio." In that document, the NRC describes as "crucially inadequate" EPA's resource deployment of 3–4 percent to "* * * investigating the relationships between fixed-site outdoor monitoring data and actual human exposures to ambient particulate matter, and to identifying the most biologically important constituents and characteristics of particulate matter * * *." This is the research area on which the Center has chosen to focus.

In addition, the NRC identified 10 research topics as "highest priority" including the following:

—"Investigate quantitative relationships between (outdoor) particulate-matter concentrations—and the actual breathing zone exposures of individuals to particulate matter and gaseous copollutants, taking ambient outdoor and indoor pollutant sources and human time-activity patterns into account, * * *" and,

—"Investigate exposures to the most biologically important constituents and characteristics of particulate matter that might adversely affect health, * * *."

Both of these research topics are being addressed in depth in the Center research program.

AIR TOXICS HEALTH EFFECTS

As indicated earlier, the second priority research area for the NUATRC is that related to the health effects associated with air toxics, but particularly those effects of an acute nature dealing with the human respiratory and/or immune systems. The Scientific Advisory Panel (SAP) elected to focus the NUATRC attention in that area, as considerable work is already underway on cancer effects and the nation seems to be experiencing increasing incidences of respiratory problems such as asthma among inner city children. A Request for Applications will soon be released by the

NUATRC that will initiate our research efforts in this area. Here again, the focus will be on the potential health risks of toxic metals from airborne particles.

SMALL GRANTS PROGRAM

Based on the need to involve the community in air toxics health risk issues, the NUATRC is beginning a small research grants program, wherein young and minority investigators could compete for limited funding that could allow more focused research approaches. This program should result in a greater degree of involvement by the local community and thus a greater sense of empowerment in these studies. We could also anticipate the development of better scientific resources in smaller, community-oriented institutions. These studies would be subject to the same rigorous peer-review and quality control requirements as the broader-scope national programs receive. This area of small grants or pilot studies offers us the opportunity to tap a reservoir of scientific talent that may be underutilized and which may also provide a improved sense of participation on the part of local community leaders. The NUATRC Board is expected to approve release of this RFA in April, 1998, with selection of awardees before year-end.

APPROPRIATIONS REQUEST

The Mickey Leland National Urban Air Toxics Research Center respectfully requests a fiscal year 1999 Appropriation of $2.6 million. The studies described above, some of which are continuing efforts from the fiscal year 1997 and 1998 research programs, can be estimated as follows:

Human Personal Exposure	$860,000
Participation in NHANES	140,000
Toxic Metals Exposure Studies	300,000
Metals Methodology Development	250,000
Small Grants Program	200,000
Risk Assessment Symposium	50,000
Metal/Particle Exposure Assessment	300,000
Administrative	500,000
Total	2,600,000

NUATRC MANAGEMENT

As mentioned at the outset, the NUATRC is led by a nine-member Board of Directors, composed of leading academics, regulatory and private sector executives, all of whom are conversant with the air toxics environmental health research issues. The Board has been active in overseeing and directing the activities of the SAP, which has evolved into a cohesive, effective and independent research advisory group. The SAP numbers scientists and physicians from Harvard, the Universities of Minnesota, Pittsburgh and Washington, Brigham Young University, the National Jewish Hospital (Denver), the U.S. Environmental Protection Agency, and private companies, including DuPont, Exxon, ICF Kaiser and Dow Chemical. These thirteen scientists bring different areas of scientific expertise to the table, allowing a broad range of input to our research program.

FUNDING

NUATRC has relied on Congressional appropriations and support from the private sector. NUATRC continues to expand its support base with the addition of private sector partners, which now include DuPont, Exxon, FMC Corporation, Goodyear Tire and Rubber Company, Houston Industries, Mobil Oil, Phillips Petroleum, Rohm and Haas Company, Shell, Sun Company, Texaco, and Union Carbide. Corporate contributions have been consistent through the years and we are continually seeking new partners to participate in this environmental health research initiative. An intensive development effort is planned in 1998 to address alternative private sector sources such as trade organizations, foundations and other possible source. This is vitally important in light of increased federal support.

CONCLUSION

We are most appreciative of the support we have received from the U.S. Congress. We believe that NUATRC is progressing in the manner anticipated by Congress, and is poised to make a significant contribution to the science underlying air toxics health effects.

Although we are hopeful that EPA will provide funding in the future, we are gratified by the recent good support we have enjoyed from EPA scientists in our

Panel deliberations, and we hope that these relationships will build and bear additional benefits to NUATRC and to the nation. Thank you for your attention to this request.

PREPARED STATEMENT OF BILLY FRANK, JR., CHAIRMAN, NORTHWEST INDIAN FISHERIES COMMISSION

Mr. Chairman, and honorable members of the Committee, I am Billy Frank, Jr., Chairman of the Northwest Indian Fisheries Commission (NWIFC) and on behalf of the tribes in Washington State I would like to thank you for the opportunity to offer written testimony concerning the Environmental Protection Agency's (EPA) fiscal year 1999 appropriations.

We are specifically requesting that programmatic funding levels to the Northwest tribes be included in EPA's budget under Section 104(b)(3) of the Clean Water Act. The purpose of our request is to continue implementation of the model Coordinated Tribal Water Quality Program for twenty-six participating tribes and tribal organizations in Washington State for fiscal year 1999. Strong congressional support for implementation of this tribal initiative began in 1990 and is present today.

However, we are losing ground in the implementation of these efforts. Erosion of base level funding is jeopardizing the federal government's long-term investment of this efficient and effective tribal water quality protection program. Support for this model tribal initiative is timely now as it implements the goals and objectives of the President's Clean Water Action Plan as it is an existing program that centers around watershed-based water quality protection by building partnerships and fostering inter-jurisdictional cooperation.

We respectfully request Congress to either:

(1) Appropriate $3.10 million into the EPA's funding base.—Under Section 104(b)(3) of the Clean Water Act, Section 319 of the Clean Water Act, or within EPA's Assessment and Watershed Program, appropriate $3.10 million into EPA's funding base for 26 participating tribes and tribal organizations in Washington State to fully implement the model cooperative tribal water resource program for environmental protection; or

(2) Direct the Agency to utilize existing $3.10 million in agency funding.—From existing Section 104(b)(3) of the Clean Water Act, Section 319 of the Clean Water Act, or EPA's Assessment and Watershed Program funds, provide $3.10 million for 26 tribes and tribal organizations in Washington State to continue implementation of the model cooperative tribal water resource program for environmental protection.

Justification for this funding request is based on:

—legal rights and obligations for the federal government to protect the treaty-reserved rights of the tribes,

—the United State's trust responsibility to protect the health and environment of the tribes on a government-to-government basis,

—cost effectiveness by utilizing a cooperative intergovernmental strategy to accomplish national clean water goals, and

—minimize conflict between multiple jurisdictions who manage water quality.

We ask that you put monies in the above mentioned mechanisms. By placing these funds in the EPA General Assistance Program (GAP), which are dedicated to planning, it limits the tribe's ability to proceed with implementation activities.

To assist the Committee members, I would like to summarize background relevant to our request.

BACKGROUND

The NWIFC request is on behalf of our 19 member treaty fishing tribes and the Hoh, Chehalis and Shoalwater Bay Tribes in western Washington, and the Yakama Indian Nation, Colville Confederated, Spokane, and Kalispel Tribes in eastern Washington. The funding request is to continue implementing the model Coordinated Tribal Water Quality Program that began in 1990.

Washington State has been blessed with bountiful rivers and streams. Five species of Pacific salmon and three species of anadromous trout utilize Washington State's streams during the fresh water stages of their life cycles. Historically, there were ample supplies of fish for ceremonial, subsistence, commercial and recreation purposes. Old growth conifer removal, riparian zone impacts, farming activities, and channelization of the streams has reduced the productive capacity of these streams to extremely low levels. Currently, there are concerns that hundreds of salmon stocks are at significantly low levels, some warranting listing under the Endangerd Species Act.

In 1979, the United States Supreme Court re-affirmed the treaty tribes' right to harvest half of the harvestable number of anadromous fish passing through tribal usual and accustomed areas. In 1980, the federal district court held that the United States and the State of Washington must not permit degradation of fish habitat which would diminish the treaty harvest right, including point and non-point pollution sources. The federal courts have recognized that protection of water quality and other attributes of fish habitat are necessary to secure the Constitutionally protected rights of the tribes to harvest fish.

The sovereign authorities of the Tribes and the legal principles enunciated in *United States* v. *Washington* and other federal court decisions support the basis upon which the tribes are involved with on and off-reservation environmental issues. As a result of federal court decisions, the state of Washington has recognized the tribes as "co-managers" of the fish resource and water quality in our state. As co-managers in Washington, the tribes must have the resources to adequately participate in environmental protection programs.

The Environmental Protection Agency's (EPA) Indian policy (1984) of working with federally recognized tribes on a government-to-government basis concerns more than 375 Indian tribes in the lower 48 states controlling over 52 million acres of land base. In our state, tribal reservations make up approximately 6 percent of the State of Washington. Our tribes also have retained treaty rights not ceded to the United States. These usual and accustomed fishing grounds include most of the State of Washington. The combined area of Indian reservations nationally is larger than all of New England, yet EPA now devotes only a tiny fraction of its personnel and funds to environmental protection for the tribes.

This is clearly a discriminatory prioritization of federal funds. On a national level, tribal reservations represent 3 percent of the land base of this nation. Although the EPA has worked closely with the states to implement adequate environmental programs, until recently little has been done to accomplish the same for the tribal governments. Indian tribes are over two decades behind the states both in resources received from the EPA and in technical assistance provided by the EPA in developing tribal water program offices. A "front end" investment will promote cooperation and increased tribal involvement in environmental protection as has been the case between the EPA and state governments for the past 20 years. The Coordinated Tribal Water Quality Program is already enabling cooperative interjurisdictional partnerships and has been matched by an additional $3 million in federal, state and tribal funds.

We recognize, support and appreciate the successful efforts that have been made to improve EPA Indian Programs and tribal funding. And further, we support the President's fiscal year 1999 budget request increasing this years programs by $20 million. Particularly, the $4 million increase to the General Assistance Program, and the $2.6 million increase for tribal water quality management programs through Section 106 of the Clean Water Act. We see these activities as important and positive steps, but believe that we have a long way yet to go in meeting the existing environmental protection needs in Indian Country.

Additionally, since the GAP funding is legislated for program development, there must be complimentary sources of implementation funding for these tribal programs. Tribes in Washington State are further along in the development of their programs than EPA's Indian funding policy development. While EPA is accomplishing important strides in improving their Indian Programs, tribes with previously established programs are experiencing a break in support while EPA plays catch-up with tribes across the nation. Our request for Section 104(b)(3) funding is intended for stabilizing existing program implementation activities. Another possibility may be within Section 319 of the Clean Water Act. However, because of legislated formula, the $100 million available nationally translates into only $300,000 (1/3 of 1 percent restriction) for tribal programs. This means that 535 tribal governments (including Alaska Native Villages) must compete for a very small pool of tribal nonpoint source pollution management program funds. Clearly, a means must be found to support the long term funding of tribal programs that seek to protect tribal treaty rights such as ours, or the efforts being made by EPA will not be successful.

TRIBAL/STATE ROLES

Beginning in 1990, the State of Washington has supported tribal involvement in environmental protection both off and on-reservation. The state is committed to work with the tribes on a government-to-government basis as "co-managers" of the water resource in the implementation of this program. The federally recognized Indian tribes in Washington have developed a process with state, local government officials, and representatives of agriculture, industry, and environmental communities

to address water resource issues on a government-to-government basis. The results of these discussions have outlined a cooperative process between the tribes, state agencies and programs, and local units of governments in areas of environmental protection. This process was highlighted as a case study example to countries around the world at the 1992 United Nations Conference on Environment and Economic Development in South America.

The Coordinated Tribal water Quality Program, an EPA/Tribal partnership, has generated successful models of state/tribal interjurisdictional cooperation. Examples of these models are:

—the Tribal Water Quality Standards Template encouraging inter-governmental uniformity and coordination of water quality management and;

—the Cooperative Management of the Clean Water Act § 303(d) Program, enabling state/tribal government to government process throughout the CWA § 303(d) listing and implementation processes.

The tribes must be part of the solutions to prevent and control water pollution in Washington State. The tribes must participate in these activities to protect their governmental interests and treaty fishing rights. In this time of existing and pending listings of salmon stocks under the Endangered Species Act, neither we, nor the resources, can afford to lose programs integral to our inter-governmental cooperative watershed program. The Coordinated Tribal Water Quality Program is part of protecting our nation's environmental heritage.

CONCLUSION

For seven years, Congress has recognized and supported the Coordinated Tribal Water Quality Program by appropriating funding to maintain its operations. Last year, Congress recognized the program without specifying monies. Our understanding of this change in Congressional action was due to the increased General Assistance Program/Indian Set aside and the expectation that the Coordinated Tribal Water Quality Program would be maintained with a portion of those monies. This has not occurred. General Assistance Program monies are designated for capacity building—the Coordinated Tribal Water Quality Program is an existing and successful tribal initiative requiring stabilized implementation funding. This model program demonstrates how tribes can participate in environmental programs working with EPA to realize its long-range objective of including tribal governments as partners in decision-making and program management of tribal lands and resources.

We appreciate the difficulty Congress is facing in making decisions for this next fiscal year. In the case of the EPA, Congress and the Administration will probably direct their resources to address those areas of highest risk to human health and the environment. Therefore, we want to reiterate that tribal reservations and protection of their treaty resources have not been adequately addressed for the past 20 years and represents the highest of risks to this nation. To do otherwise would represent environmental genocide to Native Americans.

Sufficient and permanent funding is necessary to continue the tribal cooperative program. Certainty of funding is necessary for the tribes to hire permanent and professional staff to implement this program. Without an ongoing investment by Congress much of the good that has been accomplished to date will be lost.

Please consider our request for $3.10 million for the Washington State Tribal Water Quality Program. Once again, thank you for the opportunity to provide testimony. Thank you also for your assistance in helping to develop a national model program of how tribal governments can address environmental protection in a cooperative watershed approach with state and local governments.

Thanks to this committee, we are making significant progress. This initiative is being supported at all levels of our governments. We hope you and the committee will continue to look favorably on our request.

PREPARED STATEMENT OF THE WATER ENVIRONMENT RESEARCH FOUNDATION

The Water Environment Research Foundation (WERF or Foundation) appreciates the opportunity to submit this statement and request for funding to the Subcommittee. WERF is a non-profit organization that funds and manages water quality and wastewater technology research. It is a unique public/private partnership between municipal utilities, corporations, academia, industry, and the federal government, together focusing resources on developing good science and technology for rational environmental decision making. The results of WERF's research allow regulators to better understand the costs and benefits of different regulatory approaches and to select the least-cost environmentally-beneficial approach.

WERF was created in response to the fact that federal funding for practical wastewater treatment technology and process research has declined from $15.6 million annually to virtually nothing today. Likewise, funding for municipal water pollution engineering research at the U.S. Environmental Protection Agency's (EPA's) Water Research laboratory in Cincinnati has fallen from $7.4 million in 1982 to almost zero today. Overall EPA water quality research funding has fallen from $67 million in 1980 to $26 million in 1997. Most of the available money is being used by EPA to support the development of regulations. This has resulted in the stagnation of advances in wastewater control technology and missed opportunities for better, more cost-efficient wastewater management, and has prevented our nation from achieving full benefit from the $65+ billion federal investment in wastewater infrastructure.

The need for research has never been greater. New approaches to environmental problems, such as watershed management, require a new set of tools to ensure success. Addressing non-point source problems through watershed-based trading demonstration projects allows stakeholders to maximize cost to benefit ratios. Understanding all elements of water quality criteria, creating methodologies to develop credible site-specific criteria, and implementing reliable monitoring procedures, however, are just a few of the scientific challenges before us. Whether we are discussing "pfiesteria," nutrients, TMDL's, metals, "cryptosporidium," or a myriad of other issues—tens of millions of dollars are needed. WERF provides one of the most cost effective and credible means of leveraging funds and involving stakeholders to advance our scientific knowledge and create practical solutions to our water quality problems.

WERF provides an objective forum for peer reviewed water pollution control research to benefit the public and private sectors. Each year WERF surveys its Subscribers, as well as a broad cross section of the water quality profession, to develop consensus on the most pressing scientific and technological research needs. Once the statistical analysis of the survey is complete, WERF synthesizes the data into a comprehensive 5-Year Research and Development Plan. To the extent funding allows, research proposals are solicited on a priority basis. An independent advisory Research Council, made up of experts from municipal utilities, academics, engineering firms, regulatory agencies and equipment manufacturers, helps WERF select researchers, oversees studies, and provides periodic review and advice. WERF's customer orientation facilitates creation of a consensus-based research agenda addressing the needs of the people who govern and manage water quality protection facilities. WERF's close association with the users of research results, the Water Environment Federation, and EPA ensures the practical application of findings.

WERF's funding is overwhelmingly contributed by municipal agencies that represent more than half of the sewered population of the United States. WERF members also include equipment manufacturers, consulting firms and large industrial companies. These members are geographically diverse and represent most of the country, including 39 states. WERF has also received modest federal funding through the EPA budget (in fiscal years 1991, 1993, 1994, 1995, and 1996) and through Congressional add-ons to EPA's budget (in fiscal years 1991, 1992, 1993, 1996, and 1997). The appropriations bill passed by the Congress for fiscal year 1998 included $3 million for WERF.

Since its inception in 1989, WERF has leveraged federal funding at a 6:1 ratio including in-kind contributions and co-funding from municipal utilities and the private sector. Only 13 percent of the Foundation's budget is used to pay for fund raising and administrative costs. The rest is spent on research. Since its inception in 1989, WERF has initiated over 100 research projects valued at some $30 million. Completed research has resulted in 28 published reports, with 21 additional reports expected to be printed by the end of 1998. Reports due in 1998 include studies on pollution prevention, whole effluent toxicity testing, watershed management, biosolids, toxic compounds, nutrient removal and disinfection.

WERF respectfully requests that this Subcommittee include a $5 million appropriation for the Foundation in the fiscal year 1999 EPA budget so that the critical research agenda developed by the Foundation and its public and private partners (including EPA) can be carried out to the fullest extent possible. This amount would reflect federal matching of state and local government commitments to WERF. We also wish to note our support and high regard for the work being done by our colleagues at the American Water Works Association Research Foundation (AWWARF). AWWARF and WERF are currently engaged in several cooperative research projects which impact both the water and wastewater priorities of our nation. Simply stated, the technology of today is based upon the research of the past. The promise of the future is based on the research of today.

PREPARED STATEMENT OF FATHER WILLIAM L. GEORGE, S.J., AND FATHER T. BYRON COLLINS, S.J., SPECIAL ASSISTANTS TO THE PRESIDENT OF GEORGETOWN UNIVERSITY, AND FATHER LEO J. O'DONOVAN, S.J.

Mr. Chairman and Members of the Committee: We are Father William L. George, S.J., and Father T. Byron Collins, S.J., Special Assistants to the President of Georgetown University, the Father Leo J. O'Donovan, S.J. We appreciate this opportunity to testify before your Subcommittee.

Although there were few combat-related casualties associated with the deployment to the Persian Gulf in 1990 and 1991, many veterans of this conflict suffer from non-specific and unexplained illnesses. This constellation of symptoms has been termed Gulf War Illness, but in fact these same types of symptoms have been noted in veterans of other conflicts in which the U.S. has been involved in the past. Furthermore, these symptoms occur fairly frequently in the general population, with the terms presently being used to describe the syndromes being Fibromyalgia, Chronic Fatigue Syndrome, and Somatoform Disorders. Although pathogenesis of these symptoms is poorly understood, there is a general agreement that these symptoms are due to some type of dysregulation of the central nervous system. The illness can be triggered or exacerbated by exposure to a variety of types of biological stressors such as physical trauma, emotional distress, drugs, toxins and immune stimulation. Regardless of the semantic terms used to describe these symptom complexes, they have serious impact in providing optimum health care in the context of readiness. We expect that the frequency of such symptomatic occurrence will increase as the military deploys a greater number of reserves and guards.

What we are dealing with does not fit traditional models of patient care that tend to deal with a single illness at a time. A new interdisciplinary program with strong academic rigor is urgently needed to address this complex problem for our fighting men and women of today and tomorrow. The Institute of Readiness and Environmental Health will conduct research, patient care, and education in collaboration with government agencies such as the Department of Veterans' Affairs, the Department of Defense, and the National Institutes of Health. Such an institute has been recommended by numerous committees and organizations responsible for oversight of these efforts, including GAO and the House Committee on Government Reform and Oversight. The Institute will focus on the following key aspects of the illness:

—Understanding the pathogenesis and risk factors for the development of the illnesses
—Develop risk factors and preventative measures
—Establish treatment methods for these patients
—Train the health care workers in the VA and DOD with new findings

The institute will be managed by Georgetown University under the guidance of the consortium board consisting of representatives of Georgetown University, the VA Medical Center in St. Louis, Missouri, the VA headquarters and other participating government agencies. Its activities will be closely integrated with complimentary activities in other government agencies. This institute would provide a unique opportunity for a comprehensive and scientifically rigorous study of all facets of these illnesses. It is hoped that the work of this institute will improve the readiness and environmental health for our fighting men and women.

We request $15 million for fiscal year 1999.

PREPARED STATEMENT OF MARGARET H. NELLOR, RESEARCH PROJECT MANAGER, LOS ANGELES COUNTY SANITATION DISTRICTS AND DR. PETER FOX, RESEARCH PROJECT MANAGER, ARIZONA STATE UNIVERSITY

We would like to thank you for the opportunity to submit testimony to the Subcommittee in support of federal funding in fiscal year 1999 for an exciting research program focused on strengthening scientific understanding of the efficiency and sustainability of Soil Aquifer Treatment (SAT) for indirect potable reuse of highly treated recycled water. This research, which is taking place in California and Arizona, has national implications for enhancing sustainable development of communities by augmenting and protecting valuable groundwater supplies with recycled water. Over $5 million in cash and in-kind services have already been committed to the investigation by various research sponsors and participants. Last year, Congress appropriated $1 million for the SAT project, which will be used for capital equipment needed to expand the project's monitoring and analytical capabilities, to expand and enhance groundwater modeling methods, and to create a public education program. We are seeking an additional $1 million in fiscal year 1999 to fully utilize the expanded monitoring and analytical capabilities developed with fiscal year 1998 funding.

The Soil Aquifer Treatment Project is designed to provide the data necessary to support the rational design and operation of SAT systems, to predict water quality improvements provided by SAT, and to answer important public health questions. The County Sanitation Districts of Los Angeles County, who serve over five million people in 78 cities in Los Angeles County, California, and Arizona State University are the project managers for the research in cooperation with the University of Arizona, the University of Colorado, Stanford University and the U.S. Geological Survey. We are joined in support of this funding by the Cities of Phoenix, Glendale, Mesa, Scottsdale, Tempe, and Tucson, Arizona; the Orange County Water District; the Water Reclamation District of Southern California; the Los Angeles Department of Water and Power; the City of Riverside, California; the Bureau of Reclamation; and the American Water Works Association Research Foundation.

As the arid West continues to develop and as sources for additional water supplies become more and more scarce, an increasingly important source of water for agricultural and urban use is recycled water. This water has the potential to alleviate water shortages and to provide important augmentation to existing sources. Soil Aquifer Treatment, which is currently in use in California and Arizona, is one technology that has the potential to economically supplement traditional treatment and storage systems for existing and future potable water supplies. This study will be of value not only in the West but in a number of other areas around the county where groundwater recharge is used to supplement potable water supplies, to control sea water intrusion in coastal groundwater aquifers, to control land subsidence caused by declining groundwater levels, to raise groundwater levels to reduce the cost of groundwater pumping, and to provide a means of treating wastewater prior to discharge. Most notably, the states of Florida, Massachusetts, Nebraska, Michigan, New Hampshire, New Jersey, New York, South Dakota, Texas, and Wisconsin, who already operate groundwater recharge facilities, will benefit from this research. This research will also benefit aquifer storage and recovery systems located in eleven other states.

Further, our investigations of SAT will help address the public health issues that all water suppliers in the nation face, such as source water protection and disinfection practices. The questions that will be answered by our study will be instrumental to the identification, characterization, and treatment of compounds in our nation's water supply so that we may better protect the health of our citizens.

THE NEED FOR THE STUDY

While groundwater recharge using recycled water has been used in the United States for several decades and has been the subject of a number of studies, the scientific and technical community's ability to fully address a number of complex public health questions has been limited by the nature of existing testing and study methodologies. The capital improvements funded by Congress in fiscal year 1998 will enable a higher standard of research on SAT by expanding the project's monitoring and analytical capabilities, and will thus help enhance scientific understanding of the various biological, physical, and chemical processes in SAT that modify and improve the characteristics of recycled water.

With additional funding for fiscal year 1999, we will be able to utilize the expanded capabilities that we developed with fiscal year 1998 funding. Funds will be used in part to follow up on research recommendations from the National Research Council's (NRC) Water Science and Technology Board study on the viability of augmenting potable supplies with recycled water. This work will address critical areas of research necessary to address the myriad of unknowns concerning SAT and the indirect use of recycled water for potable water supply including the fate and significance of disinfection byproducts, organics, and microbial pathogens.

The results of our investigation will help us to better understand the complex nature of recycled water and SAT so that we may take advantage of the benefits offered by indirect potable reuse based on groundwater recharge such as: additional water quality improvements; seasonal or longer-term storage without evaporative losses; protection of water resources against recontamination (with coliforms and parasites) by birds, mammals, and even humans; and prevention of algae growth and associated water-quality problems such as algae-derived taste and odor.

SAT DEFINED

Soil Aquifer Treatment can best be described as a groundwater recharge method using recycled water. SAT relies on percolation of the recycled water through soil and groundwater transport to further improve water quality prior to reuse.

—Soil percolation encompasses several processes that occur as water seeps downward through the soil under the influence of gravity to enter the groundwater

system. The soil acts as a filter to improve the characteristics of the recycled water through physical, chemical, and microbiological processes.

—Groundwater transport: After reaching the underlying aquifer, groundwater moves slowly to extraction wells. During transport, further water quality benefits are realized through a number of physical, chemical, and biological processes.

PURPOSE AND GOAL OF THE STUDY

The SAT Project is the first research program to focus broadly on SAT as a system. Its goals are to provide the data necessary to support the engineered design and operation of SAT systems, and to address factors that are of interest to health regulators for the development of regulations governing groundwater recharge projects.

Specific objectives of the project are to:

—characterize processes that contribute to organic chemical removal and transformation during transport through the soil percolation zone and underlying groundwater aquifer;

—investigate and model relationships among above-ground treatment, wetlands polishing, and SAT;

—identify monitoring criteria that will provide proper assurances regarding the elimination of viruses and other pathogens; and

—produce a framework or model within which SAT systems can be designed and operated to meet regulatory criteria.

The effectiveness of SAT will be investigated and systematically analyzed to determine the efficacy of the protective barriers inherent in SAT systems: the interface at the soil-water boundary of the infiltration surface; soil percolation; and groundwater transport. The water quality benefits derived from the treatment in each barrier will be evaluated based on the reductions achieved in levels of organic carbon, nitrogen, and pathogens.

Field investigations and data gathering are being performed at at least seven full- or pilot-scale recharge sites in California and Arizona. These sites offer a range of different effluent qualities and physical conditions such as depth to groundwater, soil and sediment type, etc. Laboratory work is also being conducted to analyze the data and develop the applicable models. These facilities are located in Phoenix, Mesa, and Tucson, Arizona; and Riverside, Los Angeles, Los Angeles County, and Orange County, California. Some of the more unique research elements include use of genetic techniques to isolate and identify viruses; analytical methodologies capable of identifying over 90 percent of the materials comprising the organic makeup of groundwater and recycled water; unique tracers to track the movement of recycled water as it infiltrates the groundwater; and a public education/outreach component to disseminate the results of the study.

On behalf of the many public agencies, cities, and universities that are participating in this exciting and promising research project, we would like to thank the Subcommittee once again for the opportunity to submit this statement and for your previous support for this project. Soil Aquifer Treatment has great potential to alleviate the coming critical water shortages in the arid western United States and provide valuable information on a national level for source water protection and supply. We thank you again for your commitment to this project in fiscal year 1998, and ask you for your renewed support to complete the level of funding requested for this project.

PREPARED STATEMENT OF DR. ROBERT J. MASON, DIRECTOR, ENVIRONMENTAL LUNG CENTER, NATIONAL JEWISH MEDICAL AND RESEARCH CENTER, DENVER, CO

Mr. Chairman, and Members of the Subcommittee, thank you for the opportunity to submit testimony to the hearing record regarding the newly established Environmental Lung Center at the National Jewish Medical and Research Center in Denver, Colorado. The National Jewish Center, formerly the National Jewish Center for Immunology and Respiratory Medicine, is the world's foremost center for the study and treatment of lung disease.

As you know, there were included in fiscal year 1997 and fiscal year 1998 EPA Appropriations, funds for research at the Environmental Lung Center. We have now successfully completed the Environmental Protection Agency peer review process for the fiscal year 1997 funds and are currently in the process of applying for the second round of funding. We believe that a very productive relationship with the agency has been fostered. Essentially, the mission of the Environmental Lung Center

will be to provide the sound science necessary to assist the agency with regulatory policy in specific areas.

Generally speaking, the Environmental Lung Center is building upon 100 years of expertise in this specific science. The goals of the Center include discovering the molecular mechanisms for environmental and lung disease, including asthma and lung cancer; providing a scientific basis for evaluating health hazards of indoor air pollution; identifying the genetic and molecular basis for individual susceptibility to environmental lung disease; and identifying the risk and effect of air pollution on patients with pre-existing pulmonary disease.

This research is extremely important given the fact that in the United States, lung disease is a leading cause of death. It is now well known that man-made environmental and occupational pollutants contribute significantly to the rising numbers of those afflicted, particularly impacting residents and commuters to urban areas and those who work in occupations such as mining, construction, textiles and manufacturing. Indoor air pollution and improper ventilation also cause the spread of respiratory illnesses. To eradicate these illnesses and address general environmental concerns, the Clean Air Act authorized EPA to set exposure standards for six widespread air pollutants. As you know, these standards continue to provoke heated debate in the scientific and regulatory communities. Our task is to find out the extent to which the exposure thresholds are true, as measured against individual susceptibility, and to assist the regulatory bodies in this country to come up with decisions regarding toxic thresholds of compounds and the medical relevance of the EPA's fixed testing-station data to surrounding populations.

As the only high ranking institute in the nation that concentrates on lung disease and the only one that sees patients as well as conducts research, National Jewish has made great contributions to the advancement of medical knowledge about the effects of environmental pollutants on the human pulmonary system. Its location in Denver is significant in that the city is plagued with environmental pollutants (nearly 300,000 Colorado residents have chronic lung disease, which is well above the national average, although our patients come from all 50 states). Our dedicated research at National Jewish has shown definite linkages between certain types of ambient air pollutants and asthma. We are currently exploring this further, along with the effects of certain pollutants on other lung diseases.

The Environmental Lung Center's research efforts will range broadly from studies of molecular biology and immunology to direct studies of air pollution on patients with lung disease. The focus of our work during the current year will be on the special features of the lung as an immune organ, the pathogenesis of oxidant and particulate inhalation injuries, and two specific cohorts of patients, chronic beryllium disease and asbestosis. For the purposes of this testimony, I will describe the proposed studies in a very general way that will give the Subcommittee a view into the complexities of determining safe levels of airborne toxins given human susceptibility factors.

We know that the lung has a unique microenvironment to suppress inflammation so as to minimize injury to its delicate gas exchange units. We believe that alterations in these specific adaptations account for individual susceptibility to environmental hazards. So, in terms of the immune system, we will focus on the critical components of immunity affecting the mucosal (pertaining to the mucous membranes) immunity. These components are called the gamma/delta T lymphocytes. In addition, we will focus on two surface-active proteins which are a unique part of the immune system of the lung. We have been able to clone these proteins and make recombinant proteins for determining precise structure and function relationships. We are studying the effects of these proteins to block specific infections. In another project, we will characterize the antioxidant properties of the lung that are critical to protection to the ozone and particulates. We will begin our studies on respiratory viral infections, which we believe greatly worsen the effects of air pollution, particularly those with pre-existing lung disease. One of the most common occupational pulmonary diseases in the aerospace industry is chronic beryllium disease. We are close to determining the molecular mechanism of this important immunologic disease. This will be the first time that an antigen receptor on a T lymphocyte has been defined precisely for a metal. We also have a cohort of patients with asbestosis, which will provide us with the opportunity of evaluating the value of sputum cytology for the detection of lung cancer in this highly susceptible population. Although it may seem that sputum cytology would be useful for screening for lung cancer, earlier studies (which may have been flawed) with lower risk patients did not establish the benefit of this approach for this purpose. This may be worth exploring again in the future since lung cancer is the number one killer in this country.

In the next year we are requesting $1.75 million to continue these projects and develop our ability to perform gene transfer and gene knock out experiments in

mice. The most exciting new technology is the use of inducible promoters to turn on a certain gene in a specified cell at a particular time. The technical components for doing this in the respiratory epithelium are available, but accomplishing this feat remains an exciting but formidable challenge for the next year. With this technology we will be able to turn on a specific gene at a particular site in the lung to defend against an environmental agent of interest.

The major thrust for the next five years is to take advantage of modern molecular biology and genetics in order to study environmental lung disease. Never before have researchers had the ability to determine the genetic basis for individual susceptibility and the molecular mechanisms of disease. Our institution is internationally known for its research in immunology, and we want to utilize this expertise to study environmental lung disease. In order to accomplish this goal, we need to expand our research facilities and core units in order to accommodate these new programs. We will commit at least 2.5 million dollars in matching funds, and we are requesting 2.0 million dollars to develop these research facilities.

Mr. Chairman, we believe that we are the best partner to provide the type of sound scientific research necessary to assist the agency with its regulatory decision-making goals. Our desire is to grow this relationship and hope that the subcommittee will again provide $1.75 million to continue this relationship for another year. Mr. Chairman, our mission is taking us to a new level of research, compounding our need to renovate and expand our current research laboratory. Therefore, we would also like to take this opportunity to present our need for $2 million as a federal share, to be matched by National Jewish, in order to expand our research space. This federal investment will enhance our nation's commitment to protecting the health and safety of its workers, citizens and individuals the world over. The research conducted by the Center will lead to medical breakthroughs and environmental findings that will assist the federal government to set new standards for both government and business. Your support for these efforts will save lives and ultimately, save costs for the federal government and for businesses who are currently struggling to comply with new standards.

Thank you.

PREPARED STATEMENT OF DR. SVEN-ERIK BURSELL, PH.D., JOSLIN DIABETES CENTER

Mr. Chairman and Members of the Subcommittee, we at the Joslin Diabetes Center in Boston appreciate the opportunity to appear before you again this year. We are extremely eager to report to you the progress on the two region, two year diabetes pilot demonstration project Joslin proposed to you last Spring.

The Joslin diabetes demonstration project will institute pilot programs of detection, prevention and care in two regions: (1) Hawaii, through Tripler Army Medical Center; and (2) New England through VA's VISN–1. The objectives involve a training and technology transfer exercise of Joslin's expertise utilizing Telemedicine infrastructures, personnel and employee/patient bases of the Departments of Defense and Veterans Affairs.

We at Joslin would like to thank you for the supportive language in the fiscal year 1998 VA/HUD Conference Report Appropriations Act regarding the diabetes research project we are participating in with the Department of Defense and the Department of Veterans Affairs in New England and Hawaii. We would like to express our appreciation for the support on diabetes issues to the majority and minority professional staff of the Committee for their advice and counsel on the legislative process and VA interface.

My testimony focuses on two aspects of the project: (1) A status report on the current year; and (2) A summary of our request for second year funding through DOD.

STATUS REPORT: FIRST YEAR ACTIVITIES

As you recall, the two objectives of the project are (1) Screening for diabetes among DOD's and VA's patient populations in New England and Hawaii, using an innovative technology which requires nothing more than shining a light in the eye; and (2) Implementing improved diabetes prevention and care protocols for the DOD's and VA's patient populations in New England and Hawaii.

We were delayed in implementation somewhat this year due to DOD's deliberations on where to place this project programmatically. While the funding flow was being cleared, we have continued to invest resources and develop elements of the program at Joslin. We have now settled those issues and are linked with TATRC, the Telemedicine & Advanced Technology Research Center at Fort Dietrick, Maryland.

Significant progress has been made towards establishing initial pilot studies to study patients with diabetes. We have reached understanding, with the support of DOD and VA personnel, on implementation of the work plan we brought to the Committee last year. We are in active discussions on implementation with both Departments.

Shortly, we will begin:

—Three Phase I pilot projects to provide information on the expected magnitude of the proposed interventions and to evaluate the feasibility of the application of these protocols at multiple sites. After the Phase 1 pilot study, we will move to a Phase 2 large-scale study on both the Joslin Vision Network (JVN) and the Diabetes Intensive Treatment Program (DOIT).

—The process of developing the Phase 1 and Phase 2 studies for both the JVN and the DOIT Program at the DOD.

—The process of organization and distribution of the remote access diabetic detection units at multiple sites.

By September 30, 1998, we will have accomplished the following, despite the delay in our start date:

—Completion of Phase 1 studies in the New England area for the VA;

—Implementation of Phase 2 studies in the New England area for the VA;

—Implementation of Phase 1 studies at Tripler Army Medical Center, Hawaii;

—Deployment of three remote examination sites in New England;

—Initiation of the deployment of three remote examination sites in Hawaii; and

—Further maturation of the technology at Joslin.

SECOND YEAR PLAN AND FUNDING NEEDS

In Year 2 we will have accomplished the following objectives:

—Provide DOD and VA diabetes patients cost-effective access to the benefits of annual retinal examination, diagnosis, and treatment as necessary to reduce the risk of vision loss;

—Develop the utilization of a quick, efficient and easily acceptable method of screening for diabetes at remote sites;

—Demonstrate efficient and effective methods to improve the metabolic control for patients with diabetes.

Anticipating early implementation in November of 1997, Joslin began procuring the necessary equipment to carry out the project. To date, Joslin has expended approximately $2.0 million, without any reimbursement from Federal funds. This has been a particular challenge for a nonprofit institution whose annual shortfall is made up through gifts from foundations and private donors.

Joslin was a little naive in the preparation of the budget we prepared for the current fiscal year. We were not aware that at each stage of DOD review and decision-making, a percentage of the funds available would be deducted for program management and administrative overhead. Nor did we anticipate several unforeseen expenses required by the Department of Defense. We are also now faced with a budget from the VA for $500,000 for the two-year period for their participation in this project. As a result, the bare bones budget we submitted last year has been reduced to an insufficient level. DOD officials have recognized and appreciated Joslin's plight in this regard. The DOD program managers have indicated that they will support a second year budget of $6.4 million to assure that this important initiative can proceed.

In total, assessments by DOD and VA are projected at $2,000,000 from the funds we had originally budgeted for the first year costs of $4.0 million.

The supporting detail for the second year request is in the final stages of preparation. We are grateful that we have the programmatic support of DOD in our efforts. We are also very fortunate that VA and DOD officials understand the budget and funding issues, and will support the second year effort at $6.4 million.

Mr. Chairman, in order to implement this project properly, and conduct the project in the manner and under the terms established by DOD and the VA, we will require an appropriation of $6.4 million in fiscal year 1999 through the Department of Defense.

Mr. Chairman, that concludes my brief statement. We are pleased to be a part of this project with the Department of Veterans Affairs and appreciate your Committee's support.

I would be pleased to answer any question from you or any other Members of the Subcommittee.

PREPARED STATEMENT OF THE BAD RIVER BAND OF LAKE SUPERIOR CHIPPEWA

INTRODUCTION

The Bad River Band of the Lake Superior Tribe of Chippewa Indians live on the shores of Lake Superior in northern Wisconsin. The Chippewa, or Anishinabe, migrated from the east and settled on Madeline Island in the early 1600's. In 1825, the Treaty of Prairie du Chien recognized the ownership of northern Wisconsin, Minnesota, and Michigan by the Chippewa. By 1842, the Chippewa had ceded a large portion of this land base to the United States. Today there are 6,291 Bad River Tribal members; 1,199 reside on the reservation and 5,092 live off-reservation. The Tribe manages social services, natural resources, education, health, housing, administration and legal departments as well as a lodge and gaming facility.

The Bad River Reservation, established by the Treaty of 1854, includes over 124,000 acres in Wisconsin's Ashland and Iron Counties and is a highly valued ecological region. Bordering the shores of Lake Superior, the reservation is the mouth of a large watershed that drains much of northern Wisconsin. The rivers flowing through the reservation are important spawning grounds for lake-run trout, salmon, sturgeon and walleye as well as many other fish which make up a significant subsistence resource for tribal members. In addition, the unique drainage area known as the Kakagon Slough provides abundant wild rice habitat that is a significant contribution to the Tribe's cultural and economic health. The sloughs are the cultural and spiritual center of the Bad River Tribe. They host the only remaining extensive coastal wild rice marsh in the Great Lakes Basin. This area is relatively well-sheltered, providing exceptional habitat for a variety of wildlife.

The challenge to preserve and enhance this and other areas of the reservation is a daily concern of the Bad River Tribe. Half of the land within the reservation borders is owned privately and subject to intensive timbering which causes severe sedimentation in the waterways. The larger rivers that flow through the reservation extend well beyond the reservation boundary and are exposed to upstream contamination sources. The encroachment of development threatens the protection of nesting sites, rare and endangered vegetation species, and cultural and historic features. To protect its resources, the Tribe is using a watershed approach to resource management which will hopefully guide land management practices throughout the 690,000 acre Kakagon/Bad River watershed. Currently, the Tribe is producing a comprehensive watershed management plan and continuing to build cooperation with off-reservation stakeholders.

Indian Environmental General Assistance Program

The Tribe wishes to express its support for President Clinton's budget initiative, particularly the increase of funding for the General Assistance Program, and the increases in both Clean Air and Clean Water Act implementation funds.

In 1991, Bad River proposed and received a Multi-Media Pilot Project to develop an environmental protection program on the reservation. This nationwide pilot was the beginning of the General Assistance program (GAP). While GAP funding has continued since 1991, the level has never been sufficient for the development of infrastructure that will enable the Tribe to manage its own environmental programs, adequately represent itself, and make decisions affecting its people and assert jurisdiction of its rights. At the current level of funding, the GAP program exists in a reactionary mode. One staff person is insufficient to handle all the air, water, solid waste and hazardous waste issues on the reservation. This lack of resources inhibits proactive steps such as long-range watershed planning, development of environmental protection codes and regulations, cooperative work with other governments on Lake Superior issues, and sound environmental planning for sustainable economic development.

Clean Water Act Funding

The Bad River Tribe supports the increase of 106 monies under President Clinton's budget proposal. The reservation's water resources quality and preservation are inextricably woven into fish, wildlife, vegetation, human health and cultural issues. The surface waters of the reservation provide nourishment and supporting the environment for the tribal fish and game resources and are a host to the vast wild rice beds previously described. Groundwater is the sole source of drinking water on the reservation. As development in the watershed increases, both groundwater and surface water are effected. The increase is 106 funding will enable the Tribe to continue development of a Water Resources Office and a Tribal Water Resources Laboratory to establish baseline parameters for the waters of the reservation. With this information, the Water Resources Office can then begin to focus monitoring, remediation and education efforts in the best possible direction. The addi-

tional monies will also allow the Tribe to complete the drafting of Water Quality Standards and an application for Treatment as A State-regulatory.

Clean Air Act Funding

The increase of funding in the President's budget coincides perfectly with the long-awaited publishing of the Tribal Authority Rule in February of this year. Increased monies are necessary for Bad River to establish baseline data about the air quality resources on the reservation. A recent study by Dr. Peter Lee of Lakehead University found that a variety of heavy metals including mercury had a significant impact on the germination and growth of wild rice. The Tribe would therefore like to monitor for mercury as well as particulate matter and sulfur dioxide.

In 1992, the Tribe embarked on the process to redesignate its airshed as a Class I Area under the Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act. The Tribe completed its final draft redesignation report in June 1995 and is now entering the final phase of the redesignation process. The additional air monies will be necessary to complete this process.

We thank the Committee for its consideration of this request.

PREPARED STATEMENT OF JAMES H. SCHLENDER, EXECUTIVE ADMINISTRATOR, GREAT LAKES INDIAN FISH AND WILDLIFE COMMISSION

Agency involved.—Environmental Protection Agency

Fiscal year 1999 appropriations requested.—$174,476

Project.—Intertribal Lake Superior basin initiative

Project description.—To build on previous successes, the Commission requests that Congress earmark $174,476 from the EPA's fiscal year 1999 Great Lakes National Program Office and Coastal Environmental Management (CEM) Programs to:

—develop, coordinate, and implement tribal strategies to protect the Lake Superior ecosystem in conjunction with the Binational Program, Lake Superior Lakewide Management Plan (LaMP); International Joint Commission (IJC) meetings; and State of the Lakes Ecosystem Conference (SOLEC) forums at a cost of $70,000; and

—expand cooperative contaminant studies for fish, animals, and plants used by tribal members under rights reserved in the 1837 and 1842 treaties with the United States at a cost of $104,476.

Authorization.—The Clean Water Act designates the Great Lakes National Program Office (GLNPO) to develop and implement action plans to carry out the United States' responsibilities under the Great Lakes Water Quality Agreement and subsequent amending Agreements. GLNPO is directed to perform these functions in cooperation with tribal agencies, among others. 33 U.S.C. § 1268(c). In the Commission's view, this is sufficient authority for Congress to provide funding for tribal organizations, such as the Commission, to undertake initiatives related to Great Lakes water quality. In 1998, GLIFWC will administer over $70,000 in Coastal Environmental Management (CEM) funds from the EPA to facilitate tribal participation in the Binational program.

On behalf of the eleven Great Lakes Indian Fish and Wildlife Commission, the Commission would like to thank you for the opportunity to submit testimony regarding the administration's fiscal year 1999 EPA budget. The Commission's fiscal year 1999 request centers on two major objectives:

—support of the EPA's Coastal Environmental Management Program and its continued funding of tribal participation in intergovernmental partnerships to develop, coordinate, and implement tribal strategies to protect the Lake Superior ecosystem in conjunction with the Binational Program, Lake Superior Lakewide Management Plan (LaMP); International Joint Commission (IJC) meetings; and State of the Lakes Ecosystem Conference (SOLEC) forums at a cost of $70,000.

—the need to expand cooperative contaminant studies for fish, animals, and plants used by tribal members under rights reserved in the 1837 and 1842 treaties with the United States at a cost of $104,476.

IMPORTANCE OF LAKE SUPERIOR AND ITS ENVIRONMENT TO ANISHINABE PEOPLE

Comprised of eleven tribal governments located throughout Minnesota, Wisconsin, and Michigan, the Commission's purpose is:

—to protect and enhance treaty guaranteed rights to hunt, fish, and gather on inland territories ceded under the Chippewa treaties of 1836, 1837, 1842, and 1854;

—to protect and enhance treaty guaranteed fishing on the Great Lakes; and

—to provide cooperative management and protection of these resources.

Tribal members rely upon fish, wildlife, and plants for religious, ceremonial, medicinal, subsistence, economic, and cultural purposes. The importance of Lake Superior and its environment is documented in the history and culture of the Anishinabe (i.e. Chippewa, Ojibwa) people.

The seven prophets came to the Anishinabe when the nation lived along the east coast. The prophets told the people that if they didn't move they would be destroyed. There would be seven stops during this migration. A turtle shaped island was the first stop in this migration located in the St. Lawrence River, a little northeast of present day Montreal. The Sacred Megis Shell guided the nation along the rivers and streams leading the people to last stop at Madeline Island. Madeline Island is located in Lake Superior off the northern shore of Wisconsin.

It was said that when the Sacred Shell was present that the Ojibway would find a good way of life and that the Great Spirit would provide for the people. These predictions came true for the people who found bountiful food throughout the year in the forests, lakes, and wild rice beds. The Ojibway people reaffirmed their commitment to preserving this homeland for future generations when Chippewa nation signed treaties with the United States Government at Madeline Island in 1842 and 1854.

While federal court rulings have reaffirmed the rights of tribes to hunt, fish, and gather from lands and waters ceded under these treaties, these rights will mean little if the resources are too contaminated to be utilized by tribal members. Any contamination from environmental degradation threatens the health, safety, and economy of Chippewa people.

GREAT LAKES DECISION MAKING AND INTERGOVERNMENTAL PARTNERSHIPS COMPONENT

Because Lake Superior is so important to tribes, they are vitally concerned about its welfare. For tribes to participate in protection initiatives to restore and protect this resource, they need to work with other jurisdictions on a government-to-government basis, and need strong governmental institutions to enable effective participation. These needs are consistent with the goals of EPA's Indian Policy, which are to promote self-government and work with tribes on a government-to-government basis.

To further EPA's policy, and address tribal needs, adequate, long term funding will be necessary to enable sustained participation in initiatives to protect the Great Lakes ecosystem. The Commission is requesting that Congress earmark $70,000 immediately from the Great Lakes National Program office or Coastal Environmental Management (CEM) Program to:

—provide a grant to enable the Commission to continue its participation in Great Lakes environmental policy making, and

—provide funds for technical projects so that the Commission is able to contribute to technical working groups and adequately review technical documents.

EPA funding will be used by GLIFWC to research environmental issues, facilitate discussions and build consensus between tribal leaders, and develop formal positions to be forwarded to appropriate agencies. These efforts would complement the ongoing efforts by Commission member tribes to develop and advance their governmental positions.

Funding from EPA is also needed to facilitate the Commission's long term participation in the Binational Program to Restore and Protect Lake Superior. The Commission proposes to participate in both the Binational Program's Task Force of senior governmental natural resource managers and Workgroup composed of technical and scientific professionals.

The Commission generally supports the continuation of CEM funding. These funds are vital to development of programs to further the goals of Remedial Action Plans (RAP's) and Lakewide Management Plans (LaMP's) in the Great Lakes basin. The Great Lakes are a precious, freshwater resource that need and deserve special protection. Specifically, funds are needed to assure the long term viability of the Binational Program to Restore and Protect Lake Superior. Tribes have begun to participate in the Binational Program, however, the process has proceeded for some years without their input. Tribes have much to offer to Great Lakes policy making; intergovernmental bodies such as the Binational Workgroup and Task Force offer an opportunity for tribes to advance issues of concern, and to work with other governments to ensure that those issues are adequately addressed from a tribal perspective.

COOPERATIVE CEDED TERRITORY CONTAMINANT STUDIES

Tribal members retain a close relationship to their environment and are directly impacted when toxins enter the Great Lakes food chain. Under off-reservation trea-

ty reserved rights, tribal members harvested, processed, and consumed: 86,045 walleye; 1,740 musky; 1,757 northern pike; 11,045 whitetailed deer; 153 bear; 5,725 ducks; and 70,424 pounds of wild rice from 1993 to 1995.

In addition to harvesting natural resources for subsistence and cultural purposes, tribal members also harvest and market Lake Superior's fishery resources. This fishery is important to the economy of tribes on Lake Superior. Between 1993 to 1995, tribes harvested a total of 405,319 pounds of lake trout; 366,563 pounds of siscowet trout; 977,023 pounds of whitefish; and 143,317 pounds of herring from 1842 ceded territory waters.

In recent years, potentially dangerous levels of mercury, PCB's, and other chemicals have been documented in fish throughout the Great Lakes region. Scientific studies have confirmed the direct correlation between consumption of fish with high mercury and PCB levels and adverse health effects. These include short-term memory and attention deficits in children. The Wisconsin Department of Health recommends limiting consumption of fish with .5 ppm and no consumption of fish with 1 ppm or greater. Given the tribes' heavy consumption of fish, the risks are obvious. This is why tribes have developed GIS maps to convey important health information to tribal members.

To protect the health and safety of tribal members the Commission is requesting funding to determine contaminant levels for eight indicator species of Lake Superior fish harvested by tribes at a cost of $40,150; determine contaminant levels for methyl mercury in fish harvested by tribal members in Mille Lacs Lake at a cost of $9,000; establish a long term monitoring program to access methyl mercury levels in fish harvested and consumed by tribal members at a cost of $35,326; and determine contaminant levels for heavy metals in wildlife harvested by tribal members at a cost of $20,000.

PREPARED STATEMENT OF TOM MAULSON, TRIBAL CHAIRMAN, LAC DU FLAMBEAU BAND OF LAKE SUPERIOR CHIPPEWA INDIANS

Mr. Chairman and members of the Committee, my name is Tom Maulson and I am the Tribal Chairman of the Lac du Flambeau Band of Lake Superior Chippewa Indians, located in Wisconsin. I am here to testify on behalf of my people, to discuss their issues, concerns and needs.

The message from my people is that the United States must keep its obligations to the Lac du Flambeau Band. The United States is obligated by Treaty to provide critically needed social, education, health and governmental services to the Band and its members in exchange for the land and peace our forefathers provided. This is the heart of the federal government's trust responsibility to the Band. And, this trust responsibility is very much on the minds of my people who know how much we gave up in exchange for the promises of the federal government. We urge you to keep this in mind as well, as you consider funding for Indian environmental programs.

The Lac du Flambeau Indian Reservation is located in north-central Wisconsin. The area is commonly called the "Lakeland Area" or the "Northwoods" and is the home for more than 1,500 members of the Lac du Flambeau Band of Lake Superior Chippewa. The descriptive names indicate an area which is rich with lakes and forests. The Lac du Flambeau Indian Reservation is 144 square miles which comprise approximately 92,000 acres. Of our Reservation homeland, 55,000 acres are forested with aspen, oak, hard maple, sugar maple, and various evergreen species, 20,000 surface acres of lakes (158), 34 miles of creeks, rivers, and streams, 14,500 acres of wetlands, and 2,500 acres designated for housing and lease property. Approximately 25 percent of the reservation area is owned by non-Band members and is considered fee land. The Band was blessed with a very diverse ecosystem and a huge responsibility to protect, enhance, and conserve the natural resources for present and future generations of tribal members.

Because water resources represent such a significant portion of the Reservation and are the foundation of our subsistence way of life, the Lac du Flambeau Band requests $100,000 in fiscal year 1999 to accomplish the following: implement a drinking water protection plan; conduct a non-point source pollution inventory; conduct public education forums for lakefront property owners; and revise Band water quality standards.

Over the past eight years, EPA funding has played a vital role in environmental management on the Lac du Flambeau Reservation. While Lac du Flambeau is eager to expand and improve environmental management programs on the Reservation, tribes for many years received virtually no funding. Even now, as EPA has begun to recognize tribal needs, we have struggled to receive merely a pittance of the total

EPA funding budget. While the Band is grateful for past monies received, continued support is necessary in order to maintain and develop environmental management programs on the reservation.

Currently, the Lac du Flambeau Band only receives between $60,000 per year from the Clean Water Act program. This funding level has allowed the Band to complete a baseline water quality study on more than 90 percent of the reservation's surface waters as well as to receive extensive training in the federally mandated water quality standards program. While this has been essential to the operation of a water resource program on the reservation, much more needs to be done. In the upcoming years, the Lac du Flambeau Band must continue to protect and manage water resources on the Reservation. The requested $40,000 increase will ensure the Band's success in these efforts.

Under the provisions of the Clean Water Act, the Band has both the responsibility and the authority to manage the water resources of the Lac du Flambeau Indian Reservation. It is evident to the Band that to effectively manage the water resources of the Reservation this authority must remain with the Band. The Clean Water Act recognizes that it would be impossible to manage water resources under any other authority than the Lac du Flambeau Chippewa themselves. However, because of State resistance to full tribal authority over Reservation resources, State standards control.

At the present time, toxic pollutants, such as mercury, have entered into Reservation waters and have led to a tribal ban on all fish consumption of walleye from one of the best fisheries and most beautiful lakes on the Lac du Flambeau Indian Reservation. These toxic pollutants have been allowed to enter Lac du Flambeau waters under current State of Wisconsin standards. Because the State does not incorporate subsistence lifestyles in setting its water quality standards, the notion that the State's level of protection is adequate for the people of Lac du Flambeau is not a responsible one. Because of the higher rate of fish consumption the Lac du Flambeau Chippewa Band, as well as other subsistence based Indian Tribes, require more stringent water quality standards to support their culture and lifestyle. We urge this Committee to support tribal primacy in this area.

In addition, it is clear that Clean Water Act Programs, such as the 106 Water Pollution Control Program, are essential to water quality protection on the Lac du Flambeau Reservation. Unfortunately, the EPA allocates only 3 percent of the 106 Water Pollution Control funding for tribal governments. States have been receiving this money for nearly thirty years in order to build an environmental infrastructure. Indian Tribes must be afforded time and money to bring environmental programs on par to those of the states. The Lac du Flambeau Band requests that the U.S. Congress mandate that the EPA to increase the 106 Water Pollution Control set aside for Indian Tribes to 10 percent of the total national allocation.

In addition to surface water resources, U.S. EPA has also assisted the Band in implementing underground storage tank, radon, solid waste, and wetland management programs on the reservation. These programs have succeeded largely due to the U.S. EPA General Assistance Program (GAP) to tribes. The General Assistance Program has helped to increase environmental awareness on the reservation since it began in 1992. Continued support of GAP will allow the Band to build on past accomplishments as well as to ensure proper compliance with various environmental regulations and mandates. At the present time, the Band has begun the second year of a projected four-year budget for this program. We request that $100,000 for fiscal year 1999 be earmarked for the Band. This is essential in order to maintain two educated and experienced individuals on our staff.

Currently we have more than 200 underground storage tanks on the Reservation, most on non-Indian fee land, that need to be removed in order to protect the Band's groundwater supply. The solid waste management program also needs to be continued and expanded in order to comply with Federal, State, and Tribal solid waste regulations. This, in itself, is a monumental task for one individual. As mentioned above, the environmental specialist is also responsible for radon testing in tribal homes and governmental buildings, emergency response to toxic spills, investigation of solid waste violations, conducting environmental education awareness programs and developing and implementing other environmental codes and ordinances. Increasing funding in fiscal year 1999 to $100,000 will support additional staff which will assist the Band in protecting and conserving our natural resources.

We need the Committee's strong support to enable us to preserve and expand our environmental programs. From our perspective, this effort is vitally important to protect the future of "Mother Earth." We look to the United States to work with us to maintain our natural resources and environment at a superior level.

PREPARED STATEMENT OF MARTIN G. BARNES, MAYOR, CITY OF PATERSON, NJ

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to submit this statement for the record. My statement is in support of a request for $5,500,000 from the Environmental Protection Agency State and Tribal Assistance Grants special needs funds for costs of a Combined Sewer Overflow Project in the City of Paterson. This sum constitutes the capital costs to be incurred in the first year of a six year Combined Sewer Overflow (CSO) Project which will cost $35,000,000. The project would remove solids and floatables from CSO discharges into the Passaic River. It is one of the largest and most complex CSO projects of its kind.

Paterson is New Jersey's third largest city. It is situated in a bend in the Passaic River in northern New Jersey. The city was founded 200 years ago at the inspiration of Alexander Hamilton, to take advantage of the water power at the Great Falls on the river.

Once a proud industrial city (the oldest in the nation), it now suffers from all the ills of an old urban area, from which much of its wealth, upper and upper middle classes have fled. Its present population is approximately 170,000. Unemployment (12 percent) is high; poverty is high (25,677); median family income is low ($30,145); median household income is low ($26,960). In a state with the highest property taxes in the nation, Paterson has one of the highest property tax rates. And its property tax ratables have been shrinking. The city's bonded indebtedness is so high that its additional bonding capacity is only some $12,000,000, making it impossible to issue bonds to pay for the cost of the mandated sewer construction. Nor can any combination of property taxes and sewer fees, or sewer fees or taxes alone solve this dilemma. It is just too great a cost burden for the people of this city to handle.

Nonetheless,Paterson has moved as rapidly as possible to comply with EPA and State CSO requirements, and is anxious to come into full compliance because it thoroughly understands the implications of the present and further pollution of the Passaic River. The river constitutes half of Paterson's boundary and is the city's greatest natural asset. The people celebrate the river's Great Falls and the Historic District surrounding the falls. But almost no use is made of the river because it is so polluted. It has been established that poisons contaminate the river less than a mile south of the city. The pollution of the river has been condemned by a number of environmental organizations. The state is working hard to clean up the pollution sources and lawsuits are underway addressing various aspects of the river pollution.

The project is important because it is quite complex, quite large and has a huge impact on the environmental enhancement of the river. To appreciate the cost and time required to correct the pollutant condition in question, it is important to note the relative size and complexity of Paterson's CSO's and the unusual work that will be required to install a system that will remove the solids/floatables. The city has 29 CSO discharge pipes ranging in size from 24 inches to 120 inches in diameter with peak discharge rates of 4 MGD to more than 1,000 MGD. In comparison, the Passaic Valley Sewerage Commission Water Pollution Control Facility in Newark has an average daily flow of only 300 MGD. Overall the Combined Sewer Overflow discharge pipes in the city have a combined flow capacity of more than 2.5 billion gallons per day.

In fact the total of 31 Combined Sewer Overflows which must be addressed cannot be designed and constructed all at once without bringing the city to a standstill and overwhelming its capacity to administer the project. Construction must be carefully staged and managed with great care. Accordingly, the city has divided the work into three categories to facilitate both design and construction.

In addition to the above, because of the size of a number of CSO'S the proposed Romag/Netting facilities which have been recommended at sites with peak wastewater flows in the range of 250 to 800 MGD have never been designed nor constructed for this type of application in the United States in the past.

The Romag screen is in use in Europe for CSO and Storm water management, in more than 100 installations.

Also, the use of netting technology is in its infancy and its use for solids/floatables capture from the fouled sewer has never been demonstrated. For these reasons it is recommended that one of the smaller Romag/Netting facilities be designed, constructed, and operated for a reasonable time period to demonstrate the viability of this option and/or design modifications which may be necessary for these facilities to operate properly.

The proposed design and construction schedule has been grouped into three categories as follows:

1. Those facilities which can be designed and constructed within a reasonably short time period (netting technology);

2. Those facilities which may have an impact on the operations of the Passaic Valley Sewer Commission (PVSC) Interceptor System and therefore require PVSC approval prior to design and construction, and (separation);

3. Those facilities which, because of the new technology and difficulty in designing facilities to treat extremely high flows (<200 MGD), require an extended design and construction schedule to provide for construction and operating data for smaller units prior to full implementation (Romag/Netting).

Capital costs commence with easement negotiation and acquisition.

The city and the surrounding environment are in a desperate situation. It is too late and pointless to assign blame. But the need nevertheless exists. Therefore, Mr. Chairman, and members of the Subcommittee, I earnestly request your assistance with Federal funding to remedy the situation.

PREPARED STATEMENT OF GARY KAATZ, CHIEF OPERATING OFFICER, FORUM HEALTH

Mr. Chairman, I appreciate the opportunity to present this statement for the record to the VA–HUD Subcommittee in support of the Southside Medical Center re-use initiative in Youngstown, Ohio. This major community enhancement effort is taking place in collaboration with numerous local political, community and civic leaders throughout Youngstown.

As you know, many of our nation's cities, formerly dominated by industrial employment bases, have slipped from their strong economic positions as the forces of low-cost, foreign competition and new technology waves have evolved. One of those cities, Youngstown, was once a major steel producing "hub" with all of the infrastructure attendant to supporting a vibrant local economy.

A strong component of the local Youngstown infrastructure, over the years, has been the health care component of the economy. Developed to support the local industrial economy, the health care sector has provided not only traditional health services, but also employment to a large sector of the population; thus it has been an important component to the economic base.

Just as a major change came to the local economic landscape in the industrial arena, so too did change come to Youngstown's health care system in the form of market forces in managed care. In order to meet these changes, Forum Health has undergone numerous adjustments, including facility, resource and service consolidations.

As part of Forum's efforts to "re-tool" its health care system to operate more efficiently, officials have decided that it is no longer financially prudent to maintain the 500,000-plus square foot Southside Medical Center campus. The "re-tooling" effort is helping to reduce regional health care costs and implement efficiencies, but at a price to the local employment base.

The various changes which Forum has made to the operations at the Southside campus have not been made without community involvement. In fact, numerous local officials and community leaders have discussed those needs in South Youngstown which should be addressed, and put forth an assortment of recommendations as to the ways in which the Southside campus facilities can best be utilized.

These recommendations have guided the efforts of Forum over the past two years while officials have implemented the various consolidations and other cost-cutting efforts. What has become apparent in this effort is that the local needs of the Southside Youngstown community pose a challenge much greater than any one organization can address.

Based on the recommendations, Forum Health believes that numerous opportunities exist for multiple re-uses of the Southside medical campus. In fact, these opportunities can be a "natural fit" with the needs of highest priority.

Southside Youngstown is a good example of a city with a long list of problems, including: chronic unemployment, crime, below-average schools and an underserved population with respect to health care. It is these needs which the Southside campus can play a part in addressing.

All of the recommendations, which have come forth as a result of Forum's discussions with local officials, dovetail well with community development themes, and are ones for which the Southside Hospital facility could serve as a base. Potential tenants for the facility include:

—Educational program space for welfare-to-work transitions (including computer-assisted learning). The facility is already wired to support extensive computer use, with a potential for a fiber optic link to Youngstown State University. Collaboration with agencies dedicated to job training and welfare-to-work transitions could be launched on a substantial scale.

—Opening of a police substation would add a needed sense of security to the area.

—Office accommodations for local social agencies. These entities, many of which are interested in this project, can benefit from the modern facility design, the synergy with other building tenants and a location close to public transportation routes.
—Job training programs for adults and youths. In cooperation with local job training agencies, there are opportunities for job training programs in numerous disciplines.
—Clinical health outpatient services. The facility is equipped and configured for outpatient health services in this medically underserved area of Youngstown.
—Future assisted living space could be an option in the large and well-constructed rooms which are part of the complex.

The above-noted examples are simply a few of the numerous possibilities for re-use of the Southside Medical Center campus. All of the possibilities are enhanced by the condition in which the facilities have been, and are, maintained, including compliance with current building life-safety and fire codes.

Mr. Chairman, the ultimate re-use of this facility will be a community development/enhancement effort which fits well within the guidelines of the HUD Economic Development Initiative guidelines. The $1 million in federal grant aid which Forum is requesting will assist with renovation and conversion as well as other components of the project.

Forum Health is prepared to donate the entire complex to a local community development entity so that the Southside complex continues to play a vital role in the South Youngstown community. A foundation of civic partnership and community collaboration can ensure that the facilities continue to serve the community just as they have over many years.

I urge your strong consideration and I thank you for allowing this statement for the record.

PREPARED STATEMENT OF WILLIAM POLF, DEPUTY VICE PRESIDENT FOR EXTERNAL RELATIONS AND STRATEGIC PROGRAMS, HEALTH SCIENCES CENTER, COLUMBIA UNIVERSITY

I am Dr. William Polf, Deputy Vice President for External Relations and Strategic Programs at the Health Sciences Center of Columbia University. I appreciate the opportunity to submit testimony before the Subcommittee to update you on the progress of development of the Audubon Biomedical Science and Technology Park.

As you know, the Audubon Biomedical Science and Technology Park, located on the Health Sciences campus of the Columbia-Presbyterian Medical Center in New York City, is one of the first urban scientific research parks dedicated to biomedical research and the development of the emerging new biotechnology industry. It is the first research park in New York City, and one of the few in the nation devoted specifically to housing both academic and commercial research to help create a synergy between university research and the development of commercial applications in pioneering new medical technologies, pharmaceuticals, and diagnostics. Development of the Audubon Park is supported by a partnership among Columbia University, New York City, New York State, and the Federal government. The past support of this Subcommittee has been critical in ensuring the success of Audubon.

Audubon combines three functions that together serve the national interest by providing a vital and innovative mechanism for expanding the availability of innovative medical treatments and enhancing health care to medically underserved citizens, while maintaining America's leadership in one of our most important economic sectors, biomedical research and development. Audubon provides a location for the continuing progress of biomedical science in the discovery of the root causes of many diseases and the development of the most advanced methods to diagnose and treat them. Audubon offers facilities and programs for translating the discoveries achieved in the scientific laboratory into the treatments that reach the bedsides of patients across the country. Audubon is an instrument for the creation of new business and jobs in the economically depressed neighborhoods of Washington Heights and Harlem. As a central element of the new Empowerment Zone program in New York, Audubon is providing job training and business development services to the north Manhattan neighborhoods. When the Park is completed, nearly 2,500 new jobs will have been created, including scientific, research, laboratory, clerical, administrative, retail, and building operations and support.

Audubon will provide a center for enabling American biomedical science to generate new business in advanced pharmaceutical and medical technologies, two cornerstones upon which the American economy can hold its own and grow in an increasingly competitive international business setting. By helping build the research

and development base that provides a scientific and technological foundation for American business, Audubon will create new American jobs. In addition to this important economic stimulus, the health benefits from new discoveries at the Park will flow directly to the surrounding community which is characterized by high rates of illness associated with poverty, inadequate healthcare, and urban distress.

Audubon houses New York City's only biotechnology business incubator, the Mary Woodward Lasker Research Facility (Audubon I), home to fifteen companies, and the Russ Berrie Medical Sciences Pavilion (Audubon II), with research programs in genetics, cancer, diabetes, and other disciplines, and new medical services to the community. Together, these first two buildings constitute a major resource for discovering important new medical science in a host of diseases, transferring new knowledge into new diagnostics and medical treatments, developing revolutionary pharmaceutical based on breakthroughs in biotechnology, and applying those benefits to people who need health care throughout the world.

Audubon III will move the concept to a new stage by creating space for the expansion of new science, new mechanisms of technology transfer, new opportunities for research collaborations, and new locations for biotech companies. The Audubon Park is proving that medical breakthroughs are enhanced when academic and commercial research move forward together. Audubon III will take that fact to the next step by providing opportunities for academic research programs and biomedically-related companies to locate in the same facility.

As your Subcommittee works to establish its funding priorities for fiscal year 1999, I respectfully request that $10 million be dedicated from the Department of Housing and Urban Development's Economic Development Initiative (EDI) for the development of Audubon III.

Thank you again, Mr. Chairman, for the opportunity to present testimony on behalf of this important and exciting initiative to the Subcommittee.

PREPARED STATEMENT OF OTTO RAABE, PROFESSOR EMERITUS OF RADIATION BIOPHYSICS, UNIVERSITY OF CALIFORNIA

Good afternoon Mr. Chairman and Members of the Subcommittee. I thank you for this opportunity to discuss specific radiation safety issues currently under consideration. My name is Otto Raabe, I am Professor Emeritus of Radiation Biophysics at the University of California, Davis, California. I am also a board-certified health physicist, and the current President of the Health Physics Society. I have a doctoral degree in Radiation Biophysics and I have worked in the field of radiation safety for almost forty years. I have published over 200 scientific papers. I am an expert in the field of radiation safety and radiation bioeffects.

THE HEALTH PHYSICS SOCIETY ("SPECIALISTS IN RADIATION SAFETY")

The Health Physics Society, formed in 1956, is a scientific organization of scientists and professionals who specialize in radiation safety. Its mission is the safeguarding of human health and the environment from potentially harmful exposures to radiation or radioactive materials in both public and private activities. Today our over 6,000 members represent all scientific and technical areas related to radiation safety including academia, government, medical institutions, research and development laboratories, analytical laboratories, consulting firms, and industry in all 50 states and the District of Columbia. The Society is chartered in the United States as an independent non-profit scientific organization, and, as such, is not affiliated with any government or industrial organization or any private entity. Its headquarters are in McLean, Virginia. The Society is dedicated to the development, dissemination, and application of scientific and practical knowledge regarding radiation safety and control.

I have attached three Health Physics Society position statements that are relevant to this testimony. They are entitled: (1) Radiation Risk in Perspective, (2) Radiation Dose Limits for the General Public, and (3) Radiation Standards for Site Cleanup and Restoration. I ask that these be included in the record with this testimony.

ENVIRONMENTAL PROTECTION AGENCY ACTIVITIES AFFECTING RADIATION SAFETY STANDARDS

I am aware that the Subcommittee has previously considered the interaction of various Federal agencies in radiation safety matters and has expressed concern about the role of the U.S. Environmental Protection Agency (EPA) in setting radiation safety standards. Before the establishment of the U.S. Environmental Protec-

tion Agency (EPA), federal guidance and recommendations concerning ionizing radiation protection standards were the responsibility of the Federal Radiation Council (FRC) which was formed in 1959 by Executive Order 10831. As the Subcommittee knows, the functions of the FRC were transferred to the EPA in 1970. This gave EPA the authority to "advise the President with respect to radiation matters, directly or indirectly affecting health, including guidance for all Federal agencies in the formulation of radiation standards in the establishment and execution of programs of cooperation with States." Other federal agencies, such as the Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC), themselves have extensive experience, expertise, and regulatory authority regarding radiation safety practices and in the promulgation of radiation protection standards that affect workers, the public, and the environment. The perspective of the EPA may not always be shared by these other agencies.

Several guidance and policy reports have been prepared by EPA under its federal guidance role that have addressed worker and public doses and standards. For the most part, the guidance reports have been tabulations of doses calculated by methods developed by the International Commission on Radiological Protection (ICRP). These have been non-controversial and useful documents. However, recently EPA has attempted to generate precise estimates of cancer risks that they associate with exposure to very small doses of ionizing radiation (smaller than natural background levels of ionizing radiation) using simplistic linear models relating risk to dose. Actually, the only human risk data available involve very high doses such as occur in atomic bomb detonations. There are no valid data demonstrating any risks from radiation at low doses such as doses associated with natural background (300 mrem per year or 20,000 mrem [20 rem] in a normal life time). There is, in fact, a body of data that suggests that low level exposure to radiation may be beneficial.

Everyone is continuously exposed to low doses of ionizing radiation associated with natural background sources. We always have been and we always will be! In addition, we are all exposed to small amounts of man-made radioactive materials in the environment representing less than 1 percent of other normal exposures. Also, medical exposures add about 15 percent to the total. These background exposures are not hazardous! At best, the risk estimates that EPA has calculated for small doses have very large unspecified uncertainties. Actually, these calculated risks are gross overestimates and are truly meaningless.

The seriousness of the situation has recently been emphasized by the publication of the "Interim Version" of Federal Guidance Report No. 13 (FGR–13), entitled "Health Risks from Low-Level Environmental Exposures to Radionuclides," that has been prepared by the U.S. Environmental Protection Agency (Federal Register, Vol. 63, No. 70/Monday, April 13, 1998/Notices, page 18008). FGR–13 contains tabulations of risk coefficients that are intended to provide estimates for about 100 important radionuclides of "* * * the probability of radiogenic cancer mortality or morbidity per unit activity inhaled or ingested, for internal exposure, or per unit time-integrated activity concentration in air or soil for external exposure" for low doses (<0.2 gray, which for gamma radiation equals 0.2 sievert or 20 rem, where the gray is a unit of absorbed dose and sievert and rem are units of equivalent dose applicable to humans and where 1 rem equals 1,000 mrem) and calculated for the whole U.S. population (adjusted for age, sex, and life span distributions). Only cancer risks are considered in FGR–13.

The numerical cancer risk values found in FGR–13 were created by merging a highly sophisticated organ dosimetry methodology with speculative linear dose-response risk models (see EPA 402–R–93–076, 1994). Within FGR–13 are tabulations of risk coefficients for inhalation of radionuclides in air, for ingestion of radionuclides in tap water, for ingestion of radionuclides in food, for external exposure to radionuclides in air, for external exposure to radionuclides on the ground surface, and for external exposure to radionuclides in soil. Although the tabulated values are given to three or four significant figures, the values are neither precise nor accurate. The models used are imaginary, unreliable, and grossly overestimate the risk associated with low doses. The tabulated values are wrong, and the estimated risks are unverifiable.

The recommendation of the Health Physics Society position statement "Radiation Risk In Perspective" (www.hps.org) has apparently not been considered in preparing FGR–13. That position statement specifically "recommends against quantitative estimation of health risk below an individual dose of 5 rem in one year or a lifetime dose of 10 rem in addition to background radiation." The HPS position statement further states: "below 10 rem (which includes occupational and environmental exposures), risks of health effects are either too small to be observed or are non-existent." This is the main range of doses for which FGR–13 claims to provide specific risk estimates! I believe that the formal codification of FGR–13 would be a serious

mistake. The Subcommittee should direct EPA to discontinue these unnecessary attempts to assign cancer risks to doses too small to lead to any public health consequences.

As an example of the implications of the use of the tabulated values from FGR–13 for estimating risks associated with exposures to radioactive materials, consider the first entry in Table 2.1, "Mortality and morbidity risk coefficients for inhalation." Radioactivity that is taken into the body produces an internal radiation exposure. The first entry is for inhaled tritiated water vapor. Tritium is the radioactive form of hydrogen found to some extent in all water on the earth, and is formed by both natural processes (cosmic radiation in the atmosphere) and by people (nuclear technologies). A single glass of tap water typically contains about 1 becquerel (unit of radioactivity) of tritium. This first entry in the table states a morbidity (occurrence of cancer) risk of 0.00000000000152 per becquerel and a mortality of 0.00000000000104 per becquerel. FGR–13 here implies that one person would be expected to develop some unspecified form of radiation-induced cancer and have a 68 percent chance of dying if all 270,000,000 people in the U.S. were each to inhale 2,440 becquerel of tritiated water vapor. This calculation is meaningless because the tiny risk assigned to tritiated water has a gigantic uncertainty that includes zero (no risk at all). The tabulations in FGR–13 are the product of unproven mathematical models rather than data on actual risks. Some people reading the tables in FGR–13 may rely on these inaccurate values and reach incorrect conclusions about radiation risks. The risk coefficients given for about 100 other radionuclides in FGR–13 are likewise misleading. My own research with internally deposited radionuclides suggests that zero risk is the most likely value for such a small exposures.

There are many technical errors in FGR–13, but the more important issue is its underlying philosophy. The type of risk calculations suggested by FGR–13 are truly ridiculous. Such calculations might be used to frighten people into believing a risk exists when, in fact, no known or expected risk is associated with low doses of ionizing radiation. The use of population risks depends on a speculative (and inappropriate) mathematically linear model. If the FGR–13 calculations had assigned error bars, zero risk would have been within the error of every risk value that is given.

With respect to radiation safety standards, there has been a trend in the direction of increasingly stringent standards designed to control very low doses to the point that the standards being used are based only on speculative, unproven, and controversial models of potential radiation risks to the public at radiation doses of which there are no known or expected risks. This trend is based on faith among some in a simplistic idea that radiation risks are proportional to dose no matter how small the dose: the so-called linear no-threshold (LNT) model. The extensive data that cast major doubts on the applicability of mathematically linear models have apparently been discounted as aberrations. It is easy to show that this model does not apply to protracted radiation exposures such as experienced by workers and the public. In my own studies, I have found radiation carcinogenesis to be highly nonlinear and dose-rate dependent. An effective threshold occurs because the cancer latent period is not a constant as assumed by EPA but increases without limit as dose rate decreases.

The EPA has also promulgated excessively stringent suggested limits for radon in homes. Again, EPA depends on mathematically linear models of risk that are derived primarily from studies of lung cancer in uranium and other underground miners who were heavy cigarette smokers and were exposed to extremely high levels of radon in mines several years ago. The recent BEIR VI report funded by EPA depended on these mathematically linear models for its main conclusions, meanwhile concurrently stating that the actual data on radon in homes could not disprove the hypothesis that there is no risk at low levels (such as radon concentrations in air that are less than 10 picocuries/L). The standard for homes used by EPA would suggest the evacuation of most homes in the State of Colorado, although Coloradans enjoy one of the lowest lung cancer rates in the U.S. Some important elaborate studies of radon in homes in the U.S. have consistently shown that U.S. counties with the very lowest radon concentrations in homes do not tend to have the lowest lung cancer rates. Actually, almost all lung cancer is caused by exposure to tobacco smoke.

Trying to comply with stringent standards involving levels of radiation exposure that are much smaller than natural background levels is very expensive and unnecessary since there are no known or expected adverse effects at these low levels. More stringent standards would be overly restrictive for the public and the nation without actual benefits. Excessively stringent standards will cause costs to the U.S. Government associated with remediation of contaminated sites to skyrocket with no measurable improvement in human health. For example, the $300 billion estimated cost of DOE site remediation could double if more stringent standards are required.

Do we really want to pay to move virtual mountains of nearly clean dirt from one State to another in the name of decontamination? The Health Physics Society is concerned about safeguarding health and the environment, but it is counterproductive to attempt to enforce unnecessarily restrictive standards.

Recently, the NRC concluded that clean-up standards for sites contaminated with radioactive materials should reduce levels to the point where calculations indicate that no member of the public will receive more than 25 millirem dose per year from the site. The EPA objected based on the results of one of their speculative radiation risk models and insisted that the NRC 25 millirem/year standard was "not adequately protective". EPA claimed that the NRC standard needed to be lowered to 15 millirem per year. This is unfortunate! Would the EPA require reopening and recleaning of already released sites at great public expense? Neither of these two dose limits would pose any cancer risk to anyone. In fact, the current 100 millirem standard is more than adequate protection and would also not involve any meaningful risk! [A dose of 100 millirem is about equal to the extra whole body radiation dose received by a person each year by moving to Denver, Colorado, from New York, Washington, or San Francisco.)

Consider the somewhat inconsistent mix of current radiation standards. As the EPA moves towards lower values, the International Commission on Radiological Protection (ICRP) and the National Council on Radiation Protection and Measurements (NCRP) promote a 100 mrem/year dose limit for members of the public; NRC and DOE have codified this limit in 10CFR20 and 10CFR835, but current Federal guidance still uses 500 mrem/year. At the same time EPA uses a public limit of 4 mrem/year received from ingestion of radionuclides in drinking water in 40CFR142, a 10 mrem/year limit for the air exposure pathway in 40CFR61, 25 mrem/year for all pathways for the nuclear fuel cycle in 40CFR192, and a mixed standard for uranium mill tailing clean-up and indoor radon. Even professionals are puzzled!

Should EPA be successful in forcing their unnecessarily stringent standards on the other agencies, the costs to the U.S. Government associated with remediation of contaminated sites will climb dramatically. If we adapt EPA's interpretation of radiation protection standards and cancer risks, we would recommend evacuation of the State of Colorado where the altitude and natural radioactivity in the soil result in background radiation that is about two times higher than in San Francisco, New York, or Washington. In fact, Colorado has one of the lowest cancer rates in the U.S. The Health Physics Society position statement "Radiation Dose Limits for the General Public" recommends a 100 mrem per year standard from nuclear technologies, and the position statement "Radiation Standards for Site Cleanup and Restoration" recommends a 25 mrem per year standard for cleanup activities.

The Subcommittee should consider the possibility that the roles and inter-relationships of EPA, DOE, and NRC in the setting of radiation protection standards need to be markedly improved. FGR–13 needs to be withdrawn. The NRC should be allowed to set clean-up standards that will not be questioned by EPA. Your Subcommittee should consider alternative mechanisms for Federal guidance for radiation safety. America needs a new interagency council to provide Federal guidance and establish consensus standards that utilize the best scientific information and provide both safety and practicability. Congressional action to resolve radiation standards issues and set appropriate limits could markedly reduce the costs associated with radiation safety and the restoration of contaminated sites.

PREPARED STATEMENT OF VIRGO LEE, TRUSTEE, NYU DOWNTOWN HOSPITAL

Thank you Chairman Specter and Members of the Subcommittee for the opportunity to submit testimony for the record. I am Virgo Lee, a partner in M.R. Partners, an investment banking firm based in New York. I have a life-long commitment to serving the Asian community in the United States. I have been Director of the Mayor's Office for Asian Affairs in New York City from 1990 through 1994 and a Trustee of NYU Downtown Hospital from 1994 to the present.

I appreciate the opportunity to appear before you today on a matter vital importance to Lower Manhattan's 350,000 residents and 375,000 member workforce who depend on the emergency services of NYU Downtown Hospital. I am here today to seek your Subcommittee's support for a project to rebuild the Hospital's aging emergency room facilities. This project impacts the health and safety of all of Lower Manhattan's population and is of particular importance to the Chinese community of New York and the Wall Street business community.

NYU Downtown Hospital is the only acute care health facility and the only emergency center in Lower Manhattan, an area as populous as the tenth largest city in the United States. Located in the heart of the World's Financial District and adja-

cent to New York's Chinatown, the Hospital provides daily emergency care for the most vulnerable and frail of the city's residents, as well as for its most powerful.

Because of a shared acknowledgment of the Hospital's importance to the overall health of our community and to the economic vitality of Downtown Manhattan, many of Wall Street's corporate leaders serve on the NYU Downtown Hospital Board along with leaders of New York's growing Chinese community. The Board of Trustees of NYU Downtown Hospital has designated renovation of its emergency room as its highest priority.

This level of community support is relatively new, having emerged and grown since 1990 with a change in Hospital leadership. We are now attempting to reverse three decades of neglect due to losses incurred by the Hospital's forerunner that left it mired in debt and unable to make improvements to critical facilities such as the emergency room.

The value of the Hospital's emergency services to the Downtown community was dramatically underscored by the 1994 terrorist bombing of the World Trade Center. Due to the proximity to the Trade Center of the Hospital's Emergency Department, NYU Downtown Hospital served as the primary emergency facility and treated more than 200 persons injured in the disaster. The Hospital, long known for its expertise in mass emergencies and in emergency heart attack treatment, earned city, state, national and international recognition for its response to the World Trade Center disaster.

Leaders of the Financial District, while recognizing this project's significance in meeting the day-to-day emergency medical needs of our employees, join with me in supporting the pressing need to provide adequate and efficient service facilities for members of New York's immigrant Chinese community.

The growing population of Chinese immigrants in need of special services and the increasing residential population in Lower Manhattan are expected to place a further strain on a facility that averages 30,000 visits a year. Complete renovation of the emergency facilities is not only imperative, it is urgent. NYU Downtown Hospital, the single largest provider of inpatient and outpatient healthcare services to New York's underserved Chinese community, seeks federal support to redesign and renovate inadequate hospital emergency facilities to improve healthcare access for Chinese immigrants.

This renovation plan, known as Project 2000, is the centerpiece of the Hospital's $25 million capital campaign. The remaining funds, which will also be directed to programs that improve healthcare access to an underserved Chinese community, will be raised through private philanthropic sources. These funds will go towards general operating support; key programs including maternal and child health and Hepatitis B intervention, and to the Chinese Community Partnership for Health Endowment Fund to continue the hospital's community-based health screening and outreach services to new immigrants.

PROBLEM

Recent Chinese immigrants to the United States, often from impoverished rural communities and having little formal education, no English-language skills, limited financial resources and virtually no experience with Western medical practices, face daunting obstacles in accessing healthcare. In New York where the Chinese population doubled between 1980 and 1990 and is projected to double again by 2005, barriers to medical services represent a public health time bomb with implications for the general population.

NYU Downtown Hospital, designated as a financially distressed hospital by the New York State Department of Health, is located in direct proximity to New York's Chinatown community and has become the primary provider of acute care health services to this growing underserved population. The Hospital has 30,000 emergency room visits annually and more than 10,500 inpatient admissions. Some 58 percent of NYU Downtown Hospital's inpatients are Chinese, many of whom are first generation immigrants with little or no ability to pay for healthcare services. The Hospital's uncompensated care for 1997 was $9 million, or 10.7 percent of the total Hospital budget. Another 40 percent of patients are covered by Medicaid.

The barriers to healthcare faced by new Chinese immigrants served by NYU Downtown Hospital go beyond language issues. Other obstacles to healthcare access are the distinctive beliefs and practices of the Chinese regarding health and illness. Often unaware of healthcare services and programs vital to disease prevention and health maintenance, many new immigrants lack basic information about risk factors and symptoms of disease. Preventive healthcare is rarely sought and Emergency Room treatment becomes a last resort for many new immigrants only after home remedies and herbal medications fail.

ADDRESSING THE PROBLEM

Committed to serving the Chinese community and the growing immigrant population, NYU Downtown Hospital has joined with the leadership of 32 major Chinese community service organization associations, garment industry unions and businesses to implement an array of programs and services to minimize obstacles to healthcare. The first segment of that effort focused on bringing health screenings and education directly into the Chinese community. In less than four years, the Hospital has served more than 29,000 people through the services of the Chinese Community Partnership for Health and earned national recognition for the success of the program.

The second segment of the Hospital's plan to improve healthcare access for Chinese immigrants focuses on encouraging use of Hospital-based services in the early stages of illness or injury. NYU Downtown Hospital, a patchwork of four buildings constructed at different times from 1949 through 1972, is daunting to navigate for even the most sophisticated of Hospital visitors. To make the Hospital more accommodating to our Chinese patients, major improvements must be made to the facility overall, and to the 1970's-era Emergency Room, in particular.

Our plan is to consolidate and integrate virtually all inpatient services, including emergency services, into one wing that would be designated as the Hospital's new main entrance. Once inside the new main entrance, patients and visitors will enter an enlarged lobby where key services such as triage, inpatient registration, information and security, cashier and the patient advocate's office, are within steps of entering. This design provides easy access to key services, on-the-spot communication with problem-solvers and continuity of services for greater efficiency.

Walk-in patients seeking emergency treatment will be met at the door of the new main entrance and directed to the triage nurse. Pre-treatment for ER patients and the ER lobby area will be located adjacent to the new Emergency Room in a physically distinct section within the main lobby.

The Emergency Room, considered state-of-the-art when it was built in the early 1970's, would undergo major reconstruction and upgrades to meet the pressing needs of the people we serve. Planned renovation includes:

—a designated area for PromptCare, a service designed to treat and release patients with routine problems within 20 minutes
—construction of treatment room for women to provide greater privacy and to accommodate specialized medical equipment
—reconstruction of all patient rooms for easier access and greater visibility by staff
—upgrade of an existing pediatric emergency room to provide appropriate amenities for children and their parents
—relocation of supply facilities and redesign of traffic patterns to enhance efficiencies in patient care

CONCLUSION

As your Subcommittee works to establish funding priorities for fiscal year 1999, I respectfully request that $10 million be allocated from the Department of Housing and Urban Development's Economic Development Initiative (EDI) Account for renovation of the Hospital's emergency room.

Thank you again, Mr. Chairman, for the opportunity to present testimony on this important project to the Subcommittee.

PREPARED STATEMENT OF THE SOCIETY OF TOXICOLOGY

The Society of Toxicology appreciates the opportunity to submit testimony concerning fiscal year 1999 funding for the Environmental Protection Agency (EPA).

The Society of Toxicology (SOT) is a professional organization that brings together over 4,000 toxicologists in academia, industry, and government. A major goal of SOT is to promote the use of good science in legislative and regulatory decisions. With scientific data as our guide, we can use sound judgment in addressing numerous environmental issues. Too often, you are asked to make decisions without the benefit of sound science. We work closely with the EPA in its cooperative role with the National Institute of Environmental Health Sciences (NIEHS) in addressing issues related to environmental health risk. The research supported by these agencies is critical to ensuring that policies affecting health and the environment are based on the most up-to-date scientific knowledge.

We would like to begin our testimony today by thanking you for your past support for research programs that foster links between science and environmental policy.

In particular, the Society appreciates the Subcommittee's support of the Superfund Basic Research Program. As we stated in our testimony last year, the Administration continues to request cuts to this program and each year it is this Subcommittee that takes a leadership role in restoring funding. We hope you will do the same this year.

SUPERFUND BASIC RESEARCH PROGRAM

Funding for the Basic Research Program is passed through the EPA to NIEHS as established in Section 311 of the Superfund Amendments and Reauthorization Act of 1986. The NIEHS administers the Superfund Hazardous Substances Basic Research Program which supports university and medical school research to understand the public health consequences of local hazardous waste sites, as well as to develop better methods for remediation. Currently, there are 18 programs at 70 universities involving more than 1,000 scientists. This research program complements other research programs carried out by the EPA and the Agency for Toxic Substance and Disease Registry. It is the only scientific research program focused on health and cleanup issues for Superfund hazardous waste sites.

Research funded by the program focuses on developing methods and technologies to detect hazardous substances in the environment, assessing and evaluating the effects of hazardous substances on human health, developing methods to better assess risks to human health presented by hazardous substances, and developing basic, chemical, and physical methods to reduce the amount and toxicity of hazardous substances.

For example, researchers are studying the health affects of chromium, a hazardous substance found at many Superfund sites. Researchers at the University of Cincinnati are looking at basic mechanisms by which chromium exposure causes cancer. To date, mouse models have indicated that the introduction of chromium into the lungs causes cell mutations in the lung tissue. Further research will be conducted to look at other factors that may play a role in triggering cancer development depending on the level of chromium exposure. Once this information is available, it may be possible to develop specific mechanisms and strategies for minimizing the health effects of chromium in the environment.

Remediation research conducted under the auspices of the Superfund Basic Research Program has led to the development of several modified clays which have proven effective in removing pentachlorophenol (PCP) from groundwater and water systems. Results of recent studies conducted by Texas A&M University indicate that concentrations of PCP as high as 10 mg/l are reduced to non-detectable levels using these modified clays. It also appears that the clays are useful in removing other organic compounds. Using these clays to decontaminate water is an inexpensive and effective alternative to charcoal.

As indicated above, there have been many significant accomplishments over the last eleven years as a result of the research conducted through the Superfund Basic Research Program. These discoveries have improved our cleanup efforts and have helped the public to understand the health risks of many contaminants found at hazardous waste sites. However, we have much more to learn about the health effects of hazardous waste. Therefore, SOT hopes you will continue to fund this program at a sufficient level. Specifically, we urge the Subcommittee to provide $40 million in fiscal year 1999 to fund the Superfund Basic Research Program. This increase of $5 million over last year's funding level would cover additional programmatic costs associated with the competitive grants coming up for renewal, including the establishment of committees to conduct peer reviews and performance of the peer reviews.

WORKER TRAINING PROGRAM

We would also like to take a moment to mention the Worker Training Program that was established at the same time as the research program to provide classroom instruction and field expertise for Superfund site and emergency response workers. Similar to the Basic Research Program, funds are provided to the EPA and passed through to NIEHS. Since the Worker Training Program began, over 450,000 workers nation-wide have been trained in both classroom seminars and hands-on exercises. NIEHS develops technically-proficient curriculum materials and quality-controlled course presentations for training these workers. NIEHS courses have established new benchmarks for quality in worker safety and health training. Included among the NIEHS grantees are labor management trust funds, university consortia, labor organizations, public health consortia and community college consortia. The Society urges the Subcommittee to continue funding this important program at least at the level provided in fiscal year 1998.

AIRBORNE PARTICULATE MATTER RESEARCH

The Society is pleased by the approach taken by the Subcommittee last year to initiate a comprehensive peer-reviewed research program relating to airborne particulates. The research process laid out by the Subcommittee allows for science to lead regulatory efforts. SOT supports the involvement of the National Academy of Sciences (NAS) in developing both a near-term research plan and a long-term research plan. It is critical that the development of the plan include consultations with the NIEHS, the Department of Energy, industry, and advocacy organizations.

It is my understanding that the first report by the NAS proposes a comprehensive research program with short-term research efforts focused on developing a better understanding of how particulate matter affects health. We believe this is an appropriate focus in the first few years of the research program. Therefore, the Society urges the Subcommittee to provide at least $49.6 million in fiscal year 1999 for the particulate matter research program.

NATIONAL INSTITUTE FOR THE ENVIRONMENT

The Society is aware of Congressional efforts to create a National Institute for the Environment, including direction by this Subcommittee to the National Science Foundation to provide a report on how they would create such an institute and the potential costs of such an endeavor. The purpose of the Institute would be to fund environmental research in order to provide a science base for public policy decisions. It is believed that such an institute could help inform the current debates involving clean air, nonpoint source pollution, and global warming. While on its face creating a separate institute appears to be a way to better coordinate environmental science and research efforts, SOT is concerned that creating a National Institute for the Environment will duplicate existing research programs and agency functions. The Society does not see the need at this time to create another bureaucracy which will become isolated from the other science functions.

ENDOCRINE DISRUPTORS

Endocrine disruptors are compounds in our environment which may have an affect on thyroid and reproductive function and development. At the present time, there is diverse scientific opinion as to the extent that such environmental agents affect human health. The Society is supportive of Congressional initiatives to pursue research on the effects of environmental agents. We believe, however, that Congress should use scientific experts to assist in the development of legislation, but should refrain from mandating specific approaches such as the development of screening and testing procedures. The Society recommends that Congress involve a scientific body such as the National Academy of Sciences to assess the nature and the extent to which environmental endocrine disruptors are a human health problem and, as necessary, to recommend the most appropriate approach to resolve any problem.

In the case of particulate air pollution mentioned above, Congress involved the National Academy of Sciences and required the development of an integrated research strategy to address this issue in the absence of mandating specific scientific approaches. This example is more in keeping with the scientific process and is the approach that the Society of Toxicology believes that Congress should now take for the endocrine disruptor issue.

CONCLUSION

Sound science should be the essential underpining of our environmental health regulatory efforts. The Society of Toxicology is made up of many of the leading experts in the field of toxicology who are happy to be a resource for the Committee when questions arise concerning environmental health and safety issues.

The public wants to know whether their communities are safe from hazardous contaminants in the air they breathe and the water they drink. The research conducted by EPA and NIEHS provides policymakers with the data you need to make decisions about the appropriateness of environmental health regulations. We urge you to continue to support the important research programs outlined in our testimony.

PREPARED STATEMENT OF DR. W. RICHARD OTT, PROVOST, CENTER FOR THE ENGINEERED CONSERVATION OF ENERGY, ALFRED UNIVERSITY

Mr. Chairman, thank you for the opportunity to submit testimony to the hearing record of this Subcommittee regarding an important economic development initia-

tive in Allegheny County, New York. This statement is to urge the Subcommittee's support to obtain an Economic Development Initiative grant of $2 million for a "living laboratory" to deploy and test new energy efficient technologies at the Alfred University Center for the Engineered Conservation of Energy (EnCo). This laboratory will be a gateway to the business incubators in the "ceramics corridor" between Alfred and Corning, New York.

Alfred University is comprised of undergraduate, graduate and professional schools. It is best known as the home to the Center for Advanced Ceramics Technology and the NSF Industry-University Center for Glass Research. The University currently produces ⅓ of the country's ceramic engineers and has the only doctoral program in glass science in the United States.

The laboratory Alfred University is seeking to construct will be a smart, self-powered building where promising energy efficient technologies can be tested and demonstrated full-scale, and will be flexible to allow it to be continuously adapted to emerging technologies. This laboratory will provide a critical link to the end of a research continuum where applied development and demonstration are essential for commercialization. Many such efforts get caught in a "valley of death" which comes between laboratory testing and investment. A research demonstration of technologies, combined with the business incubators in the area, will provide an impetus for venture capital in the region to generate new businesses and jobs.

Currently, one of Alfred University's most unique capabilities is its ability to work with the small, start-up energy and environmental technology companies where a large percentage of the region's job growth occurs. While Allegheny County is the second poorest in New York, the potential for growth in this particular area is outstanding. Local businesses as well as the New York State Energy Research and Development Authority (NYSERDA) support the development of this laboratory. Alfred University's location in the "ceramics corridor," comprised of industry and academic talent in these areas of research will feed into the business incubators and enhance this consortial initiative, which currently involves not only industry but also state and local agency partners. The State of New York invested the initial $10 million to develop the business incubators. Besides growing new energy-related companies, the incubator buildings themselves are ideally suited to incorporate new energy conservation technologies in their operations. In addition, several area industrial parks, including those in Alfred, Hornell and Wellsville, NY also offer the opportunity for fledgling companies to develop and utilize newly developed energy technologies through close ties with EnCo and Alfred University.

It is a fact that industries often have difficulty in getting the help that they need from universities. In contrast, a core competency of Alfred University is its ability to open the door for both individual companies and groups of companies to obtain that assistance, and to get answers to questions by locating people who are willing to work together with them. The University's ability to locate and provide rapid technical services to companies is well established. This service aspect of the University is being further developed. Companies have traditionally come to Alfred because of its ability to react more quickly and innovatively to their needs than can the larger research institutions.

EnCo is also interacting with the Appalachian Regional Commission (ARC). As you know, ARC is a unique partnership of Federal, state and local governments that participate in projects that benefit the business and industrial community, funding infrastructure, business development, and human resources projects. In assigning project priorities, the highest consideration is given to promotion of jobs and private investment through direct creation of jobs, attracting private investment, or upgrading the workforce for regional jobs. EnCo's interaction with ARC will further enhance regional economic development goals.

It is for these reasons that we ask your consideration for funding in the amount of $2 million to build the "living laboratory" at the Center for the Engineered Conservation of Energy at Alfred University. The potential for the economic development of the region will be greatly enhanced by the success of this initiative.

Thank you for your consideration.

PREPARED STATEMENT OF BARBARA J. COLE, DIRECTOR, LANE REGIONAL AIR POLLUTION AUTHORITY

My name is Barbara J. Cole. I am the director of the Lane Regional Air Pollution Authority (LRAPA) on whose behalf I am submitting this written testimony. LRAPA is a local air pollution control agency in Lane County, Oregon.

I am writing to you regarding the President's fiscal year 1999 budget request for the U.S. Environmental Protection Agency (EPA), specifically with regard to funds

for state and local air pollution control agencies. The President's request includes an $8.3 million increase in grants to state and local air quality agencies under Sections 103 and 105 of the Clean Air Act, totaling approximately $190.2 million. While I am pleased that the President's budget acknowledges the need for additional funds, this increase is grossly inadequate to support state and local air quality air pollution control efforts that are needed to protect public health. LRAPA is currently faced with increased federal requirements associated with the new fine particulate monitoring network and other programs under the Clean Air Act. Accordingly, I recommend an increase of $121 million above the President's request for fiscal year 1999, which includes $23 million more in Section 103 funds for the fine particulate monitoring network and an additional $98 million for the Section 105 program.

LRAPA has been delegated authority by the U.S. Environmental Protection Agency and the Oregon Department of Environmental Quality to administer federal and state air quality laws within Lane County, Oregon. LRAPA and other air pollution control agencies nationwide must carry out numerous activities to implement federal, state and local clean air requirements—both new initiatives that focus on emerging problems and ongoing activities to preserve the gains and improvements in air quality that have already made. In the past, air quality in areas of Lane County did not meet the National Ambient Air Quality Standards for carbon monoxide and fine particulate matter. Our efforts over the past 20 years have culminated in compliance with federal air quality standards in all Lane County communities. We and our member jurisdictions have made substantial investments in control strategies and public education efforts. The communities within Lane County are struggling with the adverse effects of growth. Even though we are currently meeting the National Ambient Air Quality Standards, we can not afford to relax our air pollution control efforts. If we do, air quality will once again degrade to unhealthy levels again. In fact, we must increase our air pollution control efforts in order to offset the increased emissions that result from growth. We are also concerned about compliance with the new National Ambient Air Quality Standards for ozone and particulate matter. It is our goal to work with sources in Lane County to encourage emission reductions sufficient to avoid violating the new standards. These efforts all require resources.

I am very concerned about EPA predictions of decreased funding for EPA's Region 10 the future. EPA Region 10 includes Oregon, Washington, Idaho and Alaska. EPA expects a national reallocation of federal air pollution control grant money among their regions. The plan is to apportion more resources to regions of the country that have not yet attained the National Ambient Air Quality Standards and less to regions that have. Oregon promptly, responsibly and competently did what was necessary to meet federal air quality standards. All areas of Oregon currently are in compliance with all National Ambient Air Quality Standards although not all have been formally redesignated by EPA as attainment areas. Maintaining compliance in Oregon will require additional resources, not less. I understand the logic of shifting federal dollars to regions where the health risk is the greatest; however, this approach in effect rewards communities that were less aggressive in cleaning up their air and punishes communities that cleaned up their air sooner. Communities that are struggling to maintain clean air will have to make greater state and local investments if the proposed reapportionment is implemented. The apportionment of a smaller piece of the air quality funding pie to EPA Region 10 is being discussed for future fiscal years at the same time EPA and the President are recommending a smaller pie for air programs nationwide. This would result in substantially less federal funding for Oregon's air quality programs.

In light of our many responsibilities, I am extremely concerned about additional recent trends in federal funding for state and local air pollution control agencies. With respect to fiscal year 1999, there are two major problems: the new cost of monitoring for fine particulate matter (PM–2.5) and the operating costs for other Clean Air Act programs.

EPA has estimated that $98.3 million is needed to deploy a national fine particulate matter (PM–2.5) monitoring network comprising 1,500 sites (including purchase of equipment and the costs of operating and maintaining the system and analyzing data). On many occasions, EPA committed to fully funding this program with new money; unfortunately, EPA has not met its commitment and the full funding the agency promised has not become a reality, making the new federal air quality requirements are unfunded mandate. If the promised funding is not provided, the LRAPA will have to find new local sources of revenue to comply with these new federal requirements. EPA is funding the initial purchase and operating costs for the monitors. However, the monitors are very expensive to operate and maintain. We do not have the resources to conduct the monitoring after the first year or two that EPA is partially funding.

Instead of providing the promised $98.3 million over two years for the new PM–2.5 monitoring network, EPA has allocated (or proposed) only $75.3 million in new money between fiscal year 1997–1999—a shortfall of $23 million—and has reprogrammed $13.7 million away from other extremely important and grossly underfunded non-PM–2.5-monitoring activities that state and local agencies must perform by federal law. We urge Congress, therefore, to increase Section 103 grants for the PM–2.5 monitoring network by $23 million over the President's request. The U.S. Senate shared our concern with this problem and, in response, approved an amendment to the Intermodal Surface Transportation Efficiency Act (Senator Inhofe's amendment) on March 4, 1998, that called for EPA to fund 100 percent of the cost of the PM–2.5 monitoring network by fiscal year 2000, through Section 103 of the Clean Air Act, and to do so without reprogramming funds from other clean air activities. Further, the amendment calls for EPA to restore to state and local air programs in fiscal year 1999 any funds previously reprogrammed or diverted from Section 105 grants.

While PM–2.5 monitoring activities are very important, state and local air quality agencies have many other critical responsibilities. Yet, even as the need for federal funds is increasing, Section 105 grants (for non-PM–2.5-monitoring activities) have steadily decreased in recent years. Since fiscal year 1995, federal grants for implementing the Clean Air Act (not including PM–2.5 monitoring) have decreased by over $40 million (not including the effects of inflation), representing a 23 percent cut. These cuts have made it extremely difficult for us to effectively address the critical air quality problems that need our attention and resources. The diminishing resources are being felt in Lane County. LRAPA, like most local and state air pollution control agencies nationwide, is years behind schedule in implementing the federal operating permits program for industrial sources. We have not had enough resources to compile a comprehensive emissions inventory identifying the cumulative sources of air pollution for more than five years. An accurate emissions inventory is necessary for air quality planning. Our monitoring equipment is old and in need of replacement. We have been forced to drop enforcement actions for air pollution violations due to a lack of resources. A large portion of air pollution is from transportation and individual activities. We have lacked the resources to invest in the public education and incentive programs that are needed to reduce emissions from these sectors. These activities are essential to our efforts to assure healthy air in Lane County.

EPA also is well aware that state and local air grants should be much higher to support our activities. Beginning in January 1997, the agency in cooperation with the associations of state and local air quality agencies—STAPPA and ALAPCO—undertook a four-month, intensive effort to identify and estimate the costs related to the activities that should be funded in fiscal year 1999 with state and local air grants under Section 105 of the Clean Air Act. This project relied upon the expertise and efforts of approximately 70 federal, state and local participants.

Based upon an analysis of what it would take to operate a good (although not perfect) program, the study concluded that Section 105 grants should be increased by $98 million in fiscal year 1999 (this estimate does not include PM–2.5 monitoring costs, since those are addressed under Section 103). The study identified many activities that should receive increases in fiscal year 1999 over fiscal year 1998 levels, including, among other things, minor source inspections and permits; development, replacement and/or upgrade of monitors (in addition to PM–2.5 monitoring); collection of emission and pollutant data; training; implementation of ozone strategies; compliance assistance activities, especially for small businesses; multi-state approaches to regional air quality problems; monitoring of emissions of toxic air pollutants; and implementation of strategies to address toxic air emissions in urban areas. Specifically in Lane County, an increase such as the one I am recommending is needed to catch up with the backlog in our compliance assurance efforts for industrial sources, to evaluate and abate the public health risks associated with toxic air pollution in our communities, and to take the steps necessary to prevent violation of the new ozone and fine particulate matter (PM–2.5) National Ambient Air Quality Standards, to provide citizens and small business owners information and assistance to minimize their air quality impacts, and to modernize our monitoring network.

In spite of the significant funding shortfall identified by the EPA needs assessment study, EPA has not only not proposed budget increases in operating programs in fiscal year 1999, it has actually called for decreases in Section 105 grants and has proposed reprogramming funds away from these operating activities. We urge you to reverse this trend and provide state and local air agencies with $98 million above the President's request for Section 105 grants.

Since state and local air quality agencies have the primary responsibility for implementing our nation's clean air laws, we at LRAPA are diligently seeking healthful air quality for our citizens. We cannot do this without adequate funding.

Other environmental laws and public demand are decreasing the availability of timber harvests in the Pacific Northwest. This has caused severe economic stress in many communities including Lane County. Economic development agencies are aggressively working to attract new industries to offset the losses in forest products enterprises. Air quality regulation of these new facilities is very resource intensive, especially in the first few years. Reduced federal funding of our air programs is making the transition to an economy less dependent upon timber more difficult. The burden of these federal actions taken together pose a serious hardship for our communities.

Thank you very much for the opportunity to provide testimony on a matter of great importance to community. If I can answer any questions or provide any additional information please feel free to contact me.

PREPARED STATEMENT OF MAYOR JAMES GARNER, VILLAGE OF HEMPSTEAD, LONG ISLAND

Chairman Bond and Members of the Subcommittee, I am Mayor James Garner of the Village of Hempstead, Long Island.

I appreciate your receiving this testimony from me regarding a special problem in the Village of Hempstead, Long Island. Senator D'Amato and Senator Moynihan are familiar with the problem and I have asked them to inform you of their interest in solving the problem.

The Village is located in Nassau County which is in the center of Long Island and twenty-six miles east of Manhattan. Hempstead is the largest village in the state of New York and in many ways is much more like a medium size city than a village. The Village population according to the U.S. Census Bureau is 50,500, but I can tell you as a person who walks the streets of the Village and sees the records for the amount of residential water use and sewer flows that the population is closer to 70,000.

Hempstead Village is the terminus for the central line of the Long Island Railroad and makes us the transportation center for the County. Because the Village is the center for many of Nassau County's social service agencies and public transportation, the Village has become home for many new immigrants who have come to the greater New York City area. Our population is very diverse: 65 percent African American, 10 percent Caucasian, and 25 percent Latino.

The growth of Long Island following the Civil War saw the Village become the center of retail shopping for the County. The construction of one of the largest shopping malls in the country north of the Village during the 1960's resulted in the loss of revenue and tax base in the 1970's and 1980's. Overnight the Village began to change. Major retail stores relocated to shopping centers and families began to relocate in other nearby towns. The traditional demands for social services increased at the same time that tax revenue decreased.

During the past eight years, we have begun to turn the tide. The Village has attracted new development and begun to rid itself of the drug and crime activity which scared away citizens. Unfortunately while all of these other problems were mounting, the Village's infrastructure was also beginning to decay. One of the most important parts of our public works system, the water treatment plant, has deteriorated to the point where it needs emergency help to allow us to maintain a safe, reliable water supply for public health and fire protection.

Our century old water supply system suffers from age and the threat of groundwater contamination. The risk of vandalism also adds to our concerns about the system because of the perverse nature of some individuals behavior these days and the proximity of the open water treatment facilities to a major thoroughfare running through the Village and other public areas near the plant.

Nassau County Health Department data show that since 1994 Hempstead has the greatest concentration of residents in the County affected by the pathogens, "Cryptosporidium" and "Giardia" in the County. The Village's drinking water wells are also at risk from industrial hazardous waste in a groundwater plume moving toward the Village from Roosevelt Field. The sources of the pollution are suspected to be several industrial sites and Mitchell Field, a former federal airbase and Charles Lindbergh's departure point on his transatlantic flight to Paris. These sites are one mile from the Village limits. Hempstead has already been impacted by groundwater contamination and has been treating water from two of its wells for ten years. Last spring three of Hempstead's nine wells were impacted by the move-

ment of the plume. At times last summer, the Village would not have been able to effectively fight a large building fire because of the low water supply. The lack of an adequate water supply also is having a negative impact on the Village's economic development program. Covering the basins will protect the drinking water supply and new aeration nozzles will provide more efficient removal of volatile organic compounds from the water and oxidization of iron in the water supply.

Hempstead has not been successful obtaining assistance from New York's environmental bond issue because the high income levels of Nassau County were used in evaluating the Village's application. Even if the Village qualified for State loans, it does not have the bonding capacity for the project. The Village tax base is affected by the low income population and the amount of commercial office space occupied by County and State agencies which do not pay taxes. The concentration of lower income people in the Village is, in part, caused by the location of State and County social services agencies in Hempstead. The eroded tax base causes Hempstead to continually defer maintenance on critical infrastructure projects like the Clinton Street water treatment facility, new well construction and the water distribution system.

Facility improvements require $10 million to cover the aeration basins, replace aeration nozzles, rebuild portions of the aeration basins, replace pipes, rehabilitate four existing wells and drill two new wells. Your help will enable the Village to overhaul its water supply plant and system. Hempstead needs an affordable, reliable and safe water supply to continue to rebuild its tax base and meet the needs of its predominately moderate and low income population.

Thank you for your interest in this matter and to Congresswoman McCarthy for her interest in helping solve this critical problem. I will be pleased to provide whatever additional information is necessary to answer your questions and look forward to working with you to solve this problem.

PREPARED STATEMENT OF DON OUCHLEY, GENERAL MANAGER, BROWNSVILLE PUBLIC UTILITIES BOARD

Dear Mr. Chairman, my name is Don Ouchley, General Manager of the Public Utilities Board for Brownsville, Texas, a city of 130,000, the largest city in the south Texas area of the United States-Mexico border.

Thank you for allowing me to testify before your Committee concerning the priority environmental problem faced by the Brownsville, Texas area—our lack of a long term water supply. The reason that we are here is to ask you to designate $3.0 million from the Border Environmental Infrastructure Fund (BEIF) for the use of Brownsville to initiate the implementation of the Brownsville Weir and Reservoir project.

The Brownsville Weir and Reservoir project is the most important component of an integrated plan for meeting the projected water needs of the Lower Rio Grande Valley. It provides an opportunity to capture water that has passed all other uses and, without this project flows to the Gulf of Mexico unused. It is, in short, a major water conservation project.

The structure creating the impoundment would release adequate water to satisfy both environmental and downstream uses. The project uses the existing river channel for storage and will be accessible to numerous users within the United States and Mexico, rather than constructing currently authorized off-channel reservoirs which are remote to existing water supply facilities, accessible to a limited number of municipal users and providing no benefit to Mexico or to meet in-stream flow needs.

The Project encourages water conservation because under current water management conditions, a significant portion of the water that is saved by water conservation practices is not conserved in storage, but instead flows into the Gulf of Mexico. Absent the Project, the IBWC must continue to release water from Falcon Reservoir seven days in advance of the anticipated diversion. If the released water is not diverted due to reduced demand, or due to unanticipated inflows, the water flows into the Gulf of Mexico. The project is the ultimate conservation project for our region and can conserve more water than any other alternative available. The project conserves water for all users since every acre foot of water utilized by the project will result in an acre foot remaining in storage behind Falcon Dam for the benefit of all users, municipals, industrials and agriculture.

The project has the strong support of the State of Texas, in fact, the Texas Water Development Board has incorporated it as one of its top priorities in the south Texas water plan. There is also written support from Mexico and from the Mexican

State of Tamaulipas. Finally the project has the broad support of local governments, citizens, and, increasingly, local environmental organizations.

We need the assistance because existing EPA and Border Environment Coordinating Committee (BECC) rules restrict the use of these funds to wastewater and drinking water facilities and do not cover water supply projects. The need to obtain a stable long term water supply for the entire Brownsville area is the overwhelming top border environmental priority for our area. If the BEIF is to help improve the quality of our public health and environment some funding needs to be spent on this Weir project.

Our difficulty occurs because the BECC funding emphasizes funding for wastewater and water treatment plants for smaller communities. Yet Brownsville has spent over $40 million over the past five years to upgrade these same types of facilities in order to meet state and federal standards. As a result water and sewer rates have been significantly raised and the availability of funding for the Brownsville Weir water supply project is bleak unless our already high utility rates in south Texas are raised even higher. We, and our Congressional delegation, assumed in our support of NAFTA that Border Environmental funding would be available to reduce the financial impact on the lower income communities along the border. In meeting environmental and public health needs the City has paid more than $40 million for its major wastewater and drinking water plant improvements so we strongly believe that we should be able to obtain the $3.0 million out of the over $400 million BECC border funds already appropriated for border environmental protection for our top priority.

DISCLOSURE OF FEDERAL FUNDS

The Brownsville Public Utilities Board did not receive any federal grant funds last year.

PREPARED STATEMENT OF ROBERT J. DAVENPORT, EXECUTIVE DIRECTOR, PASSAIC VALLEY SEWERAGE COMMISSIONERS

Mr. Chairman and Honorable Members of the Committee: Thank you for the opportunity to testify today concerning the need for assistance in implementing the Passaic River/Newark Bay Restoration Program.

New Jersey is distinguished as being the birthplace of industry in the United States. The industrial centers of Newark, Jersey City and Paterson developed and thrived from the early nineteenth to the mid-twentieth century, generating the goods and capital that contributed to the building of our state and nation. We are now faced with the task of undoing the destruction to the local environment caused by those early endeavors.

The Passaic Valley Sewerage Commissioners (PVSC) serve 47 municipalities in heavily industrialized Northern New Jersey, including the cities of Newark, Paterson, and Jersey City. Established in 1902 to alleviate pollution in the Passaic River, the Commission operates the sixth largest wastewater treatment plant in the United States which treats 330 million gallons per day of wastewater generated by 1.3 million people and 350 major industrial customers. The Commission's infrastructure has a current replacement value of over $3.0 billion.

The Passaic River/Newark Bay Restoration Program seeks to improve the area's waterways to allow unrestricted recreational and commercial uses. The program includes assisting volunteer groups with shoreline cleanups, the trackdown and cleanup of toxics leaching into the sewer systems, and efforts to reduce pollution from combined sewer overflows (CSO's).

The sewer systems in seven member municipalities are combined, with domestic and industrial wastewater using the same pipes as stormwater runoff. During times of rain, these sewers cannot handle the huge volume of combined sewage, which then overflows in an untreated state into the Passaic River and Newark Bay. The overflows contain floating materials which are washed from the streets, toxic organic compounds, heavy metals, and disease causing microorganisms.

EPA has promulgated a Long Term Combined Sewer Overflow plan which requires CSO owners to either reduce the quantity of overflows or provide treatment to meet water quality goals. These requirements are typically met through the total elimination of CSO's by constructing new wastewater sewers in every street or by a system to capture and store the CSO overflows for later treatment. These alternatives would take at least 15 years to implement and have a construction cost of $1 to $2.4 billion.

The cities of Newark, Paterson, and Jersey City are among the poorest in the nation, with 1989 median household incomes averaging less than $26,000. The unem-

ployment rate in 1993 was 10.3 percent and 14 percent of the population was living below the poverty line. The ocean dumping of sewage sludge was halted in 1991 by constructing massive sludge processing facilities which were paid for entirely with local funds. Debt service now consumes one out of every five dollars in PVSC's budget.

A search was initiated to find a plan which could still meet the goals of EPA's Long Term Control Strategy but at a cost which the cities could afford. A comprehensive review of the treatment plant's capacity was undertaken utilizing the latest state-of-the-art three dimensional computer modeling techniques. The study, overseen by a panel of nationally recognized waste treatment experts, recommended a series of in-plant treatment improvements which will double the plant's ability to successfully treat wet weather flows. A doubling of wet weather treatment capacity will result in PVSC exceeding EPA's Long Term requirements for pollutant reductions for CSO's. The improvements involve modifications to existing treatment units and therefore can be on line only three years after the project funds become available.

The cost for the first phase of the improvements will total $18.5 million of which we are requesting a Federal Special Needs Grant of $14.8 million. The 20 percent match would be paid for with state and local funds.

We believe that this innovative program meets the needs of environmental protection by utilizing state-of-the-art techniques to maximize the effectiveness of existing infrastructure. In an era of scarce public resources, this program will serve as a National Demonstration Project for other communities facing vast infrastructure needs with only limited fiscal resources.

PREPARED STATEMENT OF ED ARCHULETA, GENERAL MANAGER, EL PASO WATER UTILITIES PUBLIC SERVICE BOARD

Dear Chairman Bond: The purpose of this brief testimony is to thank you and the Members of this Committee for providing three million dollars in EPA Border Environmental Infrastructure Funding (BEIF) for our El Paso/Las Cruces Regional Sustainable Water Project. This money is the catalyst for assuring that the more than two million urban and rural residents of the El Paso/Juarez/Las Cruces region will have safe drinking water well into the 21st century.

The funding was provided by your Committee because the EPA rules established for BEIF funding restricted their use for this type of multi-national, multi-state water supply program that is the region's top priority. The monies will now allow the New Mexico-Texas Water Commission to conclude the ongoing water supply and environmental studies that will, in turn, allow the local communities and irrigation districts in two states and the U.S. and Mexican governments to make long-term water quality and water supply decisions.

As you may be aware, the United States recently filed a quiet title lawsuit over the ownership of the water in the Rio Grande. Historically, water litigation is lengthy and costly not only in terms of dollars, but also in terms of acrimony created between states and communities. We believe that because of the working relationships and cooperative data-based regional planning which have developed as a result of the El Paso/Las Cruces Regional Sustainable Water Project, parties as diverse as Texas, New Mexico, Colorado, and the cities of El Paso and Las Cruces, the Bureau of Reclamation, and the Department of Justice were able to work out a mediation plan. The plan is designed to efficiently address the critical issues over water—how much, who owns it, who uses it, its quality, etc. The one thing all parties can agree on is that responsible decisions cannot be made until everyone knows how much water is available and what the alternatives are for most efficiently managing it. This is what the $3 million will accomplish. The mediation should begin next month. The result is a new sense of possibility for a plan or program that will provide long-term sustainable water for the cities, the farmers, and the rural communities—based on the outcome of the sustainable water study funded by this committee.

In conclusion, it is important for your Committee to realize that this sustainable water supply effort is the top priority for this heavily populated El Paso region of the border. You should also understand that existing EPA BEIF rules make the BEIF program an uncertain source of funding for future water supply projects without the direct guidance of this Committee. State and local monies are difficult to obtain because the scope is regional and multi-jurisdictional and if any participant decides to use its funding as leverage then the mediation suffers. With these BEIF funds it allows the process to proceed. We believe this is exactly what the Congress intended the BEIF program to be used for when NAFTA was passed.

We thank you again very much for the direct appropriation of last year's funding for this project. We will continue to keep you informed of our progress.

PREPARED STATEMENT OF MAYOR KIRK HUMPHREYS, CITY OF OKLAHOMA CITY

Dear Mr. Chairman, my name is Kirk Humphreys and I am the newly elected Mayor of Oklahoma City replacing Ron Norick who has retired after eleven years as Mayor.

Thank you for allowing me to testify before your Committee today on the need for additional funding to complete the difficult task of restoring the area devastated by the Murrah building bombing.

Former Mayor Norick, the City Council and the City staff wanted me to express our special appreciation for your visit to the bombing site three years ago within the first week after the bombing. This visit and the kind support that you expressed at that time were a major boost to our local elected officials, our Congressional delegation and most important the bombing victims and the shocked citizens of Oklahoma City. We were hurting and you stepped forward to provide the most important long term assistance that our city received—the help we needed to rebuild.

Oklahoma City is requesting $23 million in additional funding to complete the task of repairing the destruction caused by the bombing of the Murrah on April 19, 1995. The funds will be used to complete damage repairs and economic recovery through the loan program and therefore will be dedicated for exactly the same purpose and on exactly the same projects as described in the original request. The new request for funding is the difference between our initial damage estimate and the real cost of restoring buildings and economic activity in the north central area of the City's downtown.

It was understood at the time of the first request that our damage estimate would not be accurate because (a) it was rushed due to there being other more urgent priorities associated with the rescue effort, (b) the estimators (public works officials) had no previous experience with an event of this nature, and (c) access within the area was substantially restricted by the FBI because this was a crime scene. This was why we indicated at that time that a further request was probable.

Attached are two maps which identify (1) estimated structural damage right after the bombing and (2) buildings where structural damage has actually been repaired with program funds. These differences are similar to those found with earthquake estimates, emphasizing that it takes time to fully identify structural damage. However, earthquake damage, because it is caused by ground waves, is very different from bomb damage, which results from wind (blast) damage over pressure—two very different stresses. Because no precedent for bomb damage exists in the country, other than limited military tests, local architects and engineers have found it very difficult throughout the program to distinguish bomb damage.

The bombing directed against the federal building devastated a large part of downtown Oklahoma City an area already under economic stress. Outside consultants have recommended major new efforts in housing and economic development to achieve recovery of the bombed area. But we need to be able to follow our original plan to provide a source of low interest loans to assist small businesses relocating to the area. If we don't, these businesses will not come and the area will not recover. The bomb was not directed at Oklahoma City—it was directed at the federal government. We simply need the help to restore this already depressed area of our city to a level that provides a chance for future economic stability.

The plan to restore the north central part of Oklahoma City was two fold. Repair the buildings first and help reestablish businesses within the area second. The first objective is on the way to being completed. The second depends on the availability of low-interest loans that will be created through a low-interest loan pool administered by local banks.

Without this type of incentive small business has no reason to return to the area because most either closed or relocated. If closed they need start-up help—if relocated they need a reason to come back. We must have them back—or some businesses to replace them or the Murrah bombing area will essentially remain a shell.

Our goal is to get us back to square one, April 18, 1995. Beyond that, the City will use its own resources to bring about the revitalization of downtown Oklahoma City. That we intend to do so is attested to by the City's MAPS program which is funding approximately $300 million in downtown redevelopment projects, separate and distinct from the bomb affected area. The City is also investigating other avenues for supporting additional downtown improvements. Oklahoma City is committed to its downtown area, but doesn't want handouts to achieve this. The request for additional bomb funds is only to get us back to our pre-bombing starting point

in north central Oklahoma City. Beyond that, we will take care of our needs using our own resources.

The following illustrates our original request (based on estimates) relative to actual funding required (based on assessed construction costs).

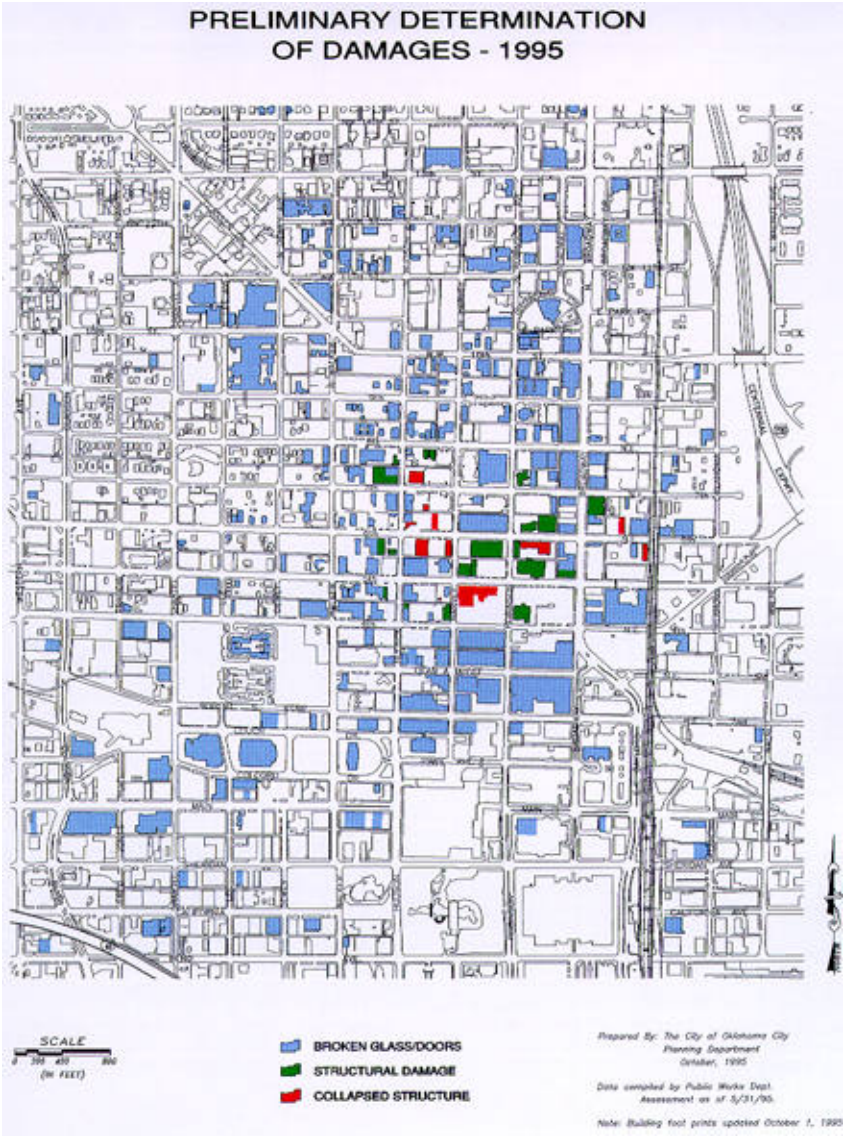
[In millions of dollars]

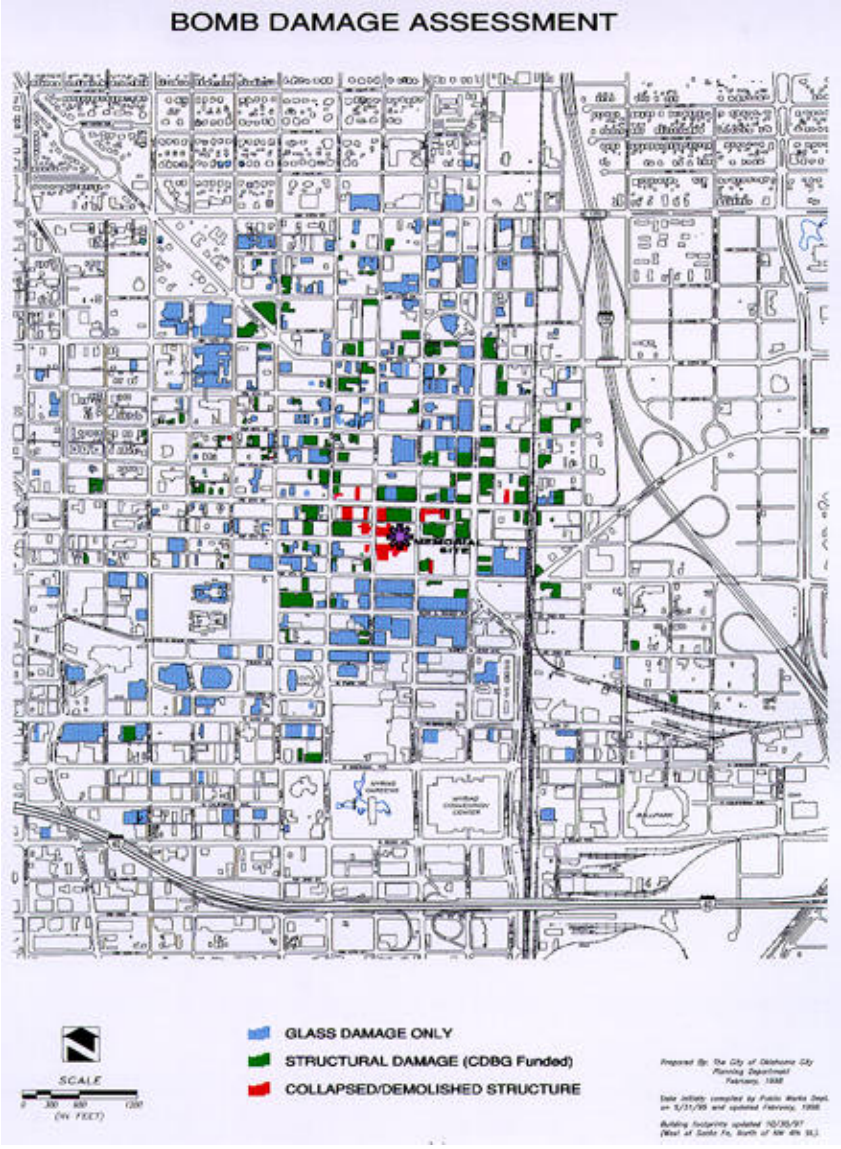
	Original request	Expended	Amended to reflect actual funding required
Damage Claims and Reconstruction Loans	18.8	34.2	40.2
Economic Recovery Loans ($40 million loan pool)	12.0	1.3	16.0
Infrastructure Repairs	6.7	2.0	3.6
Administration and Program deliveries	1.5	1.5	2.2
Totals	39.0	39.0	62.0

The City's recovery effort has the same structure and is targeted towards achieving the same purpose as originally proposed by the City and stipulated in the enabling legislation for the original $39 million grant. We presently fall short of achieving that purpose because we did not appreciate the scale of damage when we made our first request immediately after the bombing (the magnitude of which is graphically portrayed by the attached maps showing preliminary and actual bomb damage). As I stated earlier, the $23 million we are seeking is the difference between our immediate post bombing estimate and the cost of reconstruction.

We greatly appreciate your help in securing the original $39 million that started us on the road to recovery. We will be equally grateful if you can assist us in completing this difficult task.

Thank you.


PRELIMINARY DETERMINATION
OF DAMAGES - 1995
SCALE
0 200 400 800
(IN FEET)
BROKEN GLASS/DOORS
STRUCTURAL DAMAGE
COLLAPSED STRUCTURE
Prepared By: The City of Oklahoma City
Planning Department
October, 1995
Data compiled by Public Works Dept.
Assessment as of 5/31/95.
Note: Building foot prints updated October 1, 1995



PREPARED STATEMENT OF DAVE WALLER, MISSOURI RURAL WATER ASSOCIATION

Mr. Chairman and Members of the Committee, thank you for the opportunity to testify before the Committee on behalf of the Missouri State Rural Water Association and the other 45 state rural water associations. First I want to thank you and your Committee for increasing the Groundwater/Wellhead protection program and the Training and Technical Assistance program up to $8.2 million last year to allow for all state rural water associations to operate full programs.

The purpose of our testimony is to urge your support for the continued funding of the Rural Water Training and Technical Assistance program and the Groundwater/Wellhead protection program which is authorized in the Safe Drinking Water

Act and operates in forty-eight states. These programs provided for over 12,100 on-site visits, trained over 41,300 people in every rural county in the country and have completed over 2,300 small community groundwater protection programs. These are the primary programs that have direct on-site contact with the smallest community water systems where the impact of the federal Safe Drinking Water Act regulations is the most difficult.

The vast majority of water systems (94 percent) are small, serving less than 10,000 people. The majority of noncompliance with the federal requirements (90 percent) is in the same category. According to EPA's Small Town Task Force Advisory Committee, which was created by Congress to provide policy recommendation to the EPA Administrator, "small towns are different from large towns—not just smaller." The task force listed reasons for this observation including: "small towns seldom have engineers or laboratories, there are few, if any training opportunities, local training usually does not exist, small towns, as a rule, have little or no professional staff, and small communities often lack political strength, both on the state and the national level." The Task Force recommended that, "EPA must provide, where ever possible, expanded technical assistance."

Of particular importance in our request for funding this program is that the primary problem in implementing the Federal Safe Drinking Water Act is the ability of small systems to comply with the law. If small system compliance is the major focus of the law then we urge the Committee to consider as a priority this funding for the one program that most effectively addresses that concern. There is overwhelming agreement that the only way to improve the compliance of small systems is to make direct on-site contact with operators, managers and local elected officials. The positive effect of these contacts is the heart of rural public health protection.

While small system compliance with this SDWA is the main focus of the Rural Water Technical Assistance program, it is important to understand that the real long-term benefit of this program is the assurance of continuing local government control and responsibility for small and rural drinking water systems as opposed to more federal government intervention. Federal intervention and federal rules decrease the efficiency and increase the cost of small water system operations. If that is to be reversed there must be an alternative to federal regulations for protecting the public health. We believe that alternative is to consistently improve the capability of small systems through better management, improved equipment, expanded water sharing, reasonable consolidation and other efforts that make small systems more viable and less subject to national environmental regulatory intervention. This is exactly what on-site technical assistance carried out by each state rural water association accomplishes.

The best illustration of how this grassroots approach works is the rural water groundwater protection program. In the past, some environmental organizations and some Members of Congress have pressed for a federally mandated groundwater protection regulations. A federal program would expand EPA's role in land use decisions in every county in the country. The rural water program was created as an alternative to that idea. The innovative rural water approach pursues a more workable program that assists small water systems to become the catalyst for implementing wellhead/groundwater protection ordinances in their own communities. Local folks want to protect their groundwater but they need a little help to get started. This program has worked beyond everyone's best expectations—over 2,000 communities have or are adopting ordinances and it is spreading rapidly to cover other rural communities in these states. It has become the one new approach replacing any discussion of federal groundwater protection mandates.

This point is very important. Our belief that the only way to reduce federal environmental regulation is to develop an alternative approach for solving the environmental problems. In rural and small communities these alternatives can best be developed and implemented by the rural folks themselves. The primary mechanism for the rural communities is to identify and focus on how to solve these problems has been the rural water training and technical assistance program. That is why we are urging the Committee to look at this program as its top SDWA priority. This program provides the core effort for a return of environmental management to the local elected officials. In this Congress, particularly, the objectives and activity of this program reinforces other Congressional efforts to reduce federal mandates and federal regulations.

The program is operated by the Rural Water Associations. We are a federation of state rural water associations—one such association exists in each state. The statewide membership of each association is comprised of small nonprofit water systems and small towns. All members have water supply operations as their primary daily activity. State membership averages about 300 systems from all geographic areas of each state. These are active members—who continuously participate in the

training and technical assistance program in an effort to improve their drinking water. This program assists all small water systems whether they are members of the state association or not. With a significant turnover in water operators and board members, the need for training and technical assistance remains constant.

One very positive aspect of the program has been the interest in states and even EPA regional offices to expand the program in individual states when additional funds are available. There are over 20 additional full-time persons funded to do this same work from other funding sources. For example, four additional Florida Rural Water Association in-the-field staff are paid for with state funds. All these efforts are interrelated with the EPA program funded by this Committee. In addition, a growing number of states are creating new grant and loan programs to finance rural water systems to assist in upgrading them to meet SDWA requirements. Again, it is this EPA funded program that has become a catalyst in state after state for innovative and broad ranging efforts to improve drinking water facilities. To make this work the program provides the following framework for water system assistance:

—frequent training sessions covering a variety of rural water subjects in all rural areas of a state

—a minimum of 200 on-site technical assistance contacts each year

—border-to-border contact with all rural water systems in each state through a state rural water association office

—monthly or quarterly newsletters with simple advice for improvement of water system operations, as well as a very clear description of changing EPA standards for SDWA compliance

—immediate on-site assistance for any small system in the state expressing operation or management difficulties by contacting the state rural water association office

—coordinated rural water system efforts within a state to press for increased state and local funding which reduces demand on USDA grants and loans

—cooperation from all small water systems with EPA and state regulatory personnel which allows them to deliver their message and monitor the level of effort for SDWA compliance among small water systems

The number of participants in the training sessions continues to increase as do the number of rural water systems actively participating in the overall state association programs. For example, state associations annually conduct approximately 860 workshops and provide training for 41,000 rural water operators and other personnel representing 17,000 water systems nationwide. Over 11,500 technical assistance on-site hours, including visits for serious compliance problems with the Safe Drinking Water Act, were also carried out and were normally the only hands-on assistance provided to these systems to help them meet the requirements of the Safe Drinking Water Act.

This is an important time in the evolution of federal environmental protection programs. The Congress is using existing programs to determine how to reduce federal mandates by turning over more responsibility to local governments. We urge the Committee to review the Rural Water Training and Technical Assistance program in this light. This program is national in coverage but local in operation and implementation. It provides clearly documentable accomplishments in the number of systems assisted and local groundwater ordinances adopted. In short, it is local, fully documented, and it addresses the number one priority in the SDWA—small community and rural water systems.

Attached is a copy of a report done by the EPA Compliance Division evaluating the effectiveness of Circuit Riders for improving compliance with the Safe Drinking Water Act (SDWA) in Iowa and Colorado. The documented success of improved compliance will allow EPA to rely more extensively on this type of grassroots effort as opposed to increased regulatory enforcement. State rural water association in-the-field staff are a viable alternative to increased federal mandates.

We are requesting $8.85 million this year to allow for the first cost-of-living increase for our in-the-field staff in six years. The other one half of the increase would allow us to start a program in Alaska and Hawaii.

Thank you very much for your past support. We have tried to make this the best program this committee appropriates money for and we will do the same next year if you will continue our funding.

PARTNERS IN HEALTHY DRINKING WATER GRANTS

U.S. EPA/OFFICE OF COMPLIANCE—JANUARY 1998

OVERVIEW

EPA awarded grants totaling $150,000 to support three pilot projects that assisted small and very small public water systems to improve their compliance with the Safe Drinking Water Act: Colorado Department of Health and the Environment, Iowa Department of Natural Resources; and the Alaska Water Wastewater Management Association.

Two of the projects, Colorado and Iowa, focused on the total coliform rule (TCR). The TCR rule was selected because of its importance in detecting the presence of potential microbiological contamination to drinking water. Historically, a large percentage of small and very small public water systems have problems complying with the monitoring and reporting requirements of the TCR.

Due to the different needs of Native American villages in Alaska, the Alaska project focused on a variety of more site-specific technical assistance needs.

DESCRIPTION OF PILOTS

Colorado Department of Health and the Environment

The Colorado Department of Public Health and Environment identified 153 public water systems which were chronic TCR noncompliers as mentees for the program. Approximately 30 mentoring systems were selected. These included: the Colorado Rural Water Association (CRWA), and public water systems that had excellent compliance records.

The type of assistance provided included: (1) site visits and phone calls to identify problems and remind operators to take samples; (2) assistance with sampling and analysis; and (3) training.

Results.—After assistance was provided, 62 percent of the non-compliant community systems came into compliance; and 59 percent of the non-community systems achieved compliance.

Mentees who remained in compliance for one year and all mentors received free training opportunities. Twenty-six mentors attended the annual Colorado Rural Water Conference; and 103 mentees attended local training courses sponsored by the Rural Water Association or AWWA.

Iowa Department of Natural Resources and Iowa Rural Water Association

Iowa's project used two mentoring approaches: (1) created mentoring relationships between employees of Iowa's larger, regional rural water systems and very small systems operators; and (2) provided assistance to very small systems by using IRWA circuit riders as mentors. All mentees chosen had received failure to monitor notices in several of the preceding monitoring periods.

Results.—280 systems received technical assistance; 89 percent of the systems who received assistance did not receive failure to monitor notices in the subsequent monitoring period.

Other Non-mentoring Projects

TCR Calendars (1996 and 1997).—Calendars were mailed to all small water systems in Iowa and to those who requested one (approximately 2,500 systems). Feedback indicated that operators liked having one place to record their sampling information and stickers to mark the sampling days and lab results.

TCR Brochure.—This brochure summarized the TCR monitoring requirements; approximately 2,500 were distributed. They were mailed to a targeted audience, private labs, related agencies, such as IDNR regional offices, as well as affiliated groups that agreed to promote the teleconference.

TCR Teleconference.—The teleconference provided training on how to meet the requirements for bacteriological water testing. Iowa held two teleconferences with a total of 325 participants. Survey responses from 97 participants returned following the first teleconference indicated a high level of satisfaction with the TCR teleconference.

TCR Video.—This tool was used to provide training to small systems owner/operators on how to take TCR samples and was distributed to all mentees.

Alaska Water Wastewater Management Association (AWWMA)

Alaska Department of Environmental Conservation (ADEC) worked closely with AWWMA to choose systems with one or more of the following characteristics: (1) new operators; (2) non-compliers; (3) financially needy; (4) interested operators. Sys-

tems in noncompliance were matched with mentors who were in compliance, had more expertise in water treatment, and were located in the same geographical area.

Four remote village operators participated. Mentors visited the villages to become familiar with their systems. Some of the mentees went to the mentor's communities to observe and participate in the operation of the larger, more complex systems.

Results.—Strong mentor/mentee relationships were established and efforts to correct specific problems through one-on-one training of the mentee operator by the mentor were successful. For example, one mentor assisted a mentee with repairing a flow meter and now the mentee can perform the repair unassisted. Another mentor provided instruction on how to optimize filter performance and how to conduct proper TCR sampling

Generally, it's hard to measure the benefits of these types of direct technical assistance on small communities. AWWA felt, however, that the participating communities would gladly offer their appreciation and enthusiasm for the improvements that resulted from receiving this assistance.

Federal Funding Disclosure.—The Missouri Rural Water Association is a non-profit trade association. We received the following pass through federal grants and contracts last year:

EPA Technical Assistance program	$85,000
EPA Ground Water Protection program	85,000
USDA Circuit Rider program	85,000
USDA Wastewater Technician program	85,000

PREPARED STATEMENT OF DAVE BOLIN, PRESIDENT, GROUNDWATER PROTECTION COUNCIL

Mr. Chairman, thank you for the opportunity to testify today. My name is Dave Bolin, I am President of the Groundwater Protection Council and the Assistant Oil and Gas Supervisor for the State Oil and Gas Board of Alabama. I have two Masters' Degrees in Engineering and a Ph.D. in ground water hydrology.

My agency is a typical member agency in the Ground Water Protection Council. We are responsible for the environmental safeguards related to oil and gas exploration and production. Many of us are also responsible for state ground water and surface water protection programs. Through the GWPC, my agency and the other states work together to protect ground water resources while reducing the cost of compliance to industry.

We feel that GWPC's mission reflects the future of environmental protection: that we regulators must form partnerships, together with industry and local government, to protect the environment. This is the alternative to a command and control regulatory model which we feel often results in unintended consequences, like unnecessary cost to industry and local government. Neither of these consequences help to protect our environment nor effectively utilizes limited resources.

In addition to expressing the state governmental agencies' appreciation for your assistance last year, Mr. Chairman, I would like to emphasis one main point today—that success in implementing the Safe Drinking Water Act's source water protection program, and the Act's oil and gas exploration programs depend primarily on state government agencies like mine. And because we are the keys to success and workability of these two EPA delegated programs, we urge the subcommittee to look at increasing funding to innovative state programs as an alternative to expanding the federal bureaucracy. In both the underground injection control program and the source water protection program, EPA has requested additional funding.

An example of environmental innovation is GWPC's proposal to provide states with the data and information to allow them to comply with the 1996 Safe Drinking Water Act's requirement that states submit a source water plan to EPA next year. We are currently developing a data system that many states will use as the core of their source water program. There is no other data system being developed by EPA or anyone else to assist states. Mr. Chairman, states must start submitting plans for EPA approval next year and many states could use the assistance. We feel that additional source water resources should be utilized to get this information system to states so that they can comply with EPA's requirements. Without such a uniform system, many states will spend millions to develop dozens of different systems that may not be accepted by EPA; or worse, many will miss the compliance date opening them up to court actions and more bad press on environmental progress. I have enclosed with my testimony six letters from state governments supporting the GWPC data system. One state EPA said, "this system could serve to standardize the electronic format for national reporting of source water assessments * * *." The

other states: Ohio, Illinois, New Hampshire, Nebraska, and Mississippi are all very hopeful they will be able to use this system. This proposal would require $750,000 in fiscal year 1999.

Our other priority is the EPA underground injection control program. It is our hope that you will consider increasing the program's funding in this EPA budget. Increasing the UIC grant to $17.0 million in this year will not only help protect the environment, but also reduce the environmental regulatory cost burden on the oil and gas industries and state agencies. Currently, as a result of overburdened state agencies, industry may face slower processing of oil and gas production permits which decreases production and makes foreign production more competitive. Limiting production because of a shortage in oversight resources is pushing producers overseas. Also, EPA is in the process of developing a new regulation for us to implement called the Class V rule. It will require our agencies to start regulating up to one million new wells and severely stressing state resources.

In closing Mr. Chairman, we would like to thank the Committee for the previous support and ask for your support again on these two priorities.

ADDITIONAL EXPLANATIONS AND ANALYSIS SUBMITTED FOR THE COMMITTEE RECORD

REASONS TO INCREASE THE STATES' EPA/UIC FUNDING GRANT IN FISCAL YEAR 1999

Allow state environmental agencies to continue to protect underground water supplies and maintain efficient state oversight of the oil and gas industry practices throughout the country. Currently, as a result of overburdened state agencies, industry may face slower processing of oil and gas production permits which decreases production and makes foreign production more competitive. Limiting production because of a shortage in oversight resources is pushing producers overseas.

EPA is in the process of developing a new regulation for us to implement called the Class V rule. It will require our agencies to start to regulate up to one million new wells. Most will be very small businesses (farms, service stations, repair shops, print shops, dry cleaners, etc.) and most will be in rural areas (because there are no centralized sanitary sewers). This will require tremendous state resources.

The Budget Agreement provides EPA increased funding for federal environmental protection. We feel increased environmental funding should be used to increase programs such as the UIC to help relieve the burden on states and the oil and gas producers.

Each of the signatures on this letter are members of the Ground Water Protection Council (GWPC). The GWPC is a national non-profit organization that promotes the safest methods, most cost-effective regulation, and comprehensive ground water protection procedures and underground injection techniques related to oil and gas activities. The GWPC provides a forum through which members, consisting of state and federal ground water and underground injection control regulators, industry representatives, environmental representatives, and concerned citizens work together to protect ground water resources. We feel strongly that the oil and gas industry supports our requests.

In each of the last ten years, Congress has provided $10.5 million to state UIC agencies in the EPA budget for continued operation and enforcement of the national underground injection control programs and we'd like to thank you for that. However, in the last ten years, the funding match has shifted from [75 percent federal: 25 percent state] to [25 percent federal: 75 percent state]. At the same time, federal funding for our sister agency's program (the federal Safe Drinking Water Act State Public Water Systems Supervision program) has more than doubled. The UIC delegated program has not expanded as the overall EPA budget has continued to grow.

CURRENT STATUS OF GWPC SURVEY ON ASSESSMENT OF CLASS V IMPACTS

In 1999 the EPA will issue new Regulations governing very shallow wells, which are typically large industrial septic systems in non-sewered areas. EPA estimates that there could be over 300,000 of these "wells" in the U.S. all of which must be inspected, and perhaps shut in and/or remediated. This will take significant additional resources on the part of the states. The GWPC is nearing completion of a nationwide financial needs assessment to determine what the eventual cost of implementing these new regulations will be for the states. While I do not have the entire survey result yet, I do have the estimates for Alabama. Based on full compliance we have determined that it will cost over an additional $360,000 to implement the new regulations in Alabama, which has a small state program compared to perhaps California or Texas, where program costs could easily exceed $1,000,000. Yet all this still somehow is expected to be taken from the current $10.5 million which also funds the other UIC program implementation.

SUMMARY OF ACCOMPLISHMENTS OF LAST YEAR'S WELLHEAD TECHNICAL ASSISTANCE FUNDING

Assistance to state governments with implementation of UIC and ground water protection programs:

Conduct a National Stakeholders Conference on Ground Water and UIC Issues.—The GWPC conducted the 1997 Annual Forum, a technical conference on Ground Water, Watershed, Source Water, Wellhead Protection and Underground Injection Control. The September 1997 conference held in Cleveland, OH, strengthened partnerships and identified opportunities for flexibility in carrying out regulatory responsibilities. The attendees, totaling 321, included stakeholders from the public and private sector, state agencies, local governments, and effected industries. Each participant received a copy of the proceedings at the conference.

Early Involvement in the National Ground Water and UIC Program Implementation.—GWPC participated in two informal State workgroup meetings regarding the development of policies, regulations, and other issues relating to ground water and UIC program implementation. The meetings were held in October 1997 and March 1998. GWPC selected State Class V agency representatives to participate in the meeting and provided transportation funding for these representatives.

Communication and Training for States and Industry.—GWPC published and distributed, bimonthly, The Ground Water Communique to all state UIC and Ground Water Agencies and the Industry. The Communique tracks and summarizes both national and state legislation, rule making, guidance and technical information important to state program managers. Special purpose information on both the UIC and Ground Water programs was collected and/or distributed on an as needed basis by use of mail, e-mail, FAX, GWPC home page, or conference calls. Within this task GWPC also conducted training sessions addressing legislation, regulation and policy issues facing Class I, II, and III injection wells. This training was held at GWPC's Annual UIC Meeting in Houston, TX, January 1998.

Develop Model to Determine Cost to Administer a State UIC Program.—GWPC participated in an informal state workgroup meeting regarding the development of an assessment of costs to run an adequate state Class V UIC program. GWPC selected States Class V agency representatives to participate in the meeting and provided transportation funding for these representatives. Conclusions from the workgroup meeting spurred the development of the resource model. GWPC distributed the model to all fifty state ground water agencies and gathered specific State resource information.

Development of a Wellhead and Source Water Protection Data Management System.—The GWPC has developed a pilot wellhead and source water protection data management system capable of tracking and querying national, state and local wellhead and source water protection information including the locations of public water supply intakes.

Federal Funding Disclosure.—The Ground Water Protection Council is a non-profit trade association of primarily state environmental agencies. We received the following federal grants and/or contracts last year:

EPA Wellhead Technical Assistance program	$400,000
DOE Risk Based Data Management System program	750,000

LETTER FROM JAMES L. CRAWFORD

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY,
OFFICE OF POLLUTION CONTROL,
Jackson, MS, April 8, 1998.

Mr. MICHAEL PAQUE,
Executive Director, Ground Water Protection Council,
Oklahoma City, OK.

DEAR MR. PAQUE: I was most impressed with the demonstration in Maryland of the source water protection software package being developed by the Ground Water Protection Council (GWPC). Let me encourage GWPC to continue development of the Environmental Information Management Suite—Source Water Protection Module that combines data management and analysis, geographic information system (GIS) mapping, and interactive Internet publishing capabilities. I am convinced that this pilot project will be a major asset for states in implementing the 1996 amendments to the Safe Drinking Water Act.

When fully developed, this system will enhance the ability of states to protect source waters and make information available to the public using the World Wide

Web and provide states with the ability to electronically report progress on their Source Water Protection Programs to Congress and the U.S. Environmental Protection Agency. This system will also enhance the efficiency of programs by allowing states to electronically exchange data with the National Rural Water Association technicians also involved in Wellhead and Source Water Protection Programs.

The Safe Drinking Water Act was written to provide considerable flexibility in the implementation of source water protection while at the same time providing some overall national consistency. The system is attractive to states like Mississippi because it is being developed with direct input from the states and uses priorities established by the states. Unlike other national databases, GWPC's Source Water Protection data management system is a tool that meets our needs.

The GWPC is providing an excellent service to the states in developing this computer application and the Mississippi DEQ looks forward to using this system to protect the source waters of our state.

Sincerely,

JAMES L. CRAWFORD,
Chief.

LETTER FROM MICHAEL G. BAKER

OHIO ENVIRONMENTAL PROTECTION AGENCY,
Columbus, OH, April 10, 1998.

Mr. MICHAEL PAQUE,
Ground Water Protection Council,
Oklahoma City, OK.

MIKE: Another successful meeting in Annapolis. You and your staff did a great job. While there are still some issues to resolve with USEPA, we were able to lay some good ground work at the meeting.

I also want to let you know my interest in learning more about the Environmental Information Management Suite (EIMS) GWPC has developed. As I have discussed with Paul Jehn, we have been working on development of our own data management and GIS application for the Division of Drinking and Ground Waters for several years. After seeing the demonstration of the Source Water Protection Module of the EIMS I'm wondering how I may be able to link these two efforts. The EIMS appears to provide some extremely useful, easy to use tools that would enhance our current development plans. I will be following up with Paul to see if we can arrange a demonstration for my GIS and data management experts.

I also hope GWPC can continue to develop the program in light of some of the recommendations discussed at the Annapolis meeting. I think this system could serve to standardize the electronic format for national reporting of source water assessment and protection progress. It could also serve as a tremendous tool to States and public water suppliers in making results of assessments available to the public via the World Wide Web.

Congratulations on another successful meeting.

Sincerely,

MICHAEL G. BAKER,
Program Manager.

LETTER FROM RICHARD P. COBB

ILL,
Springfield, IL, April 10, 1998.

Mr. MICHAEL PAQUE,
Executive Director, The Ground Water Protection Council,
Oklahoma City, OK.

DEAR MIKE: I am writing this letter to encourage The Ground Water Protection Council (GWPC) to continue the development of the Environmental Information Management Suite Source Water Protection Module. This pilot project which combines data management and analysis, geographic information system mapping, and interactive Internet publishing is a tool which will assist states in the implementation of the 1996 amendments to the Safe Drinking Water Act.

When fully developed, this system will enhance our ability to protect source waters and make information available to the public using the World Wide Web. At the same time, we will be able to electronically report progress on source water protection to Congress and the United States Environmental Protection Agency. This

system will also add to the efficiency of our programs by allowing us to electronically exchange data with the National Rural Water wellhead and source water protection programs.

The Safe Drinking Water Act was written to provide considerable flexibility in the implementation of source water protection while at the same time providing some overall national consistency. The system is attractive to states like Illinois because it is being developed by states using state priorities. Unlike other national databases, GWPC's source water protection data management system is a tool that meets our needs.

The GWPC is providing an excellent service to the states in developing this computer application and the Illinois Environmental Protection Agency looks forward to using this system to protect our source waters.

Sincerely,

RICHARD P. COBB,
Manager.

LETTER FROM SARAH PILLSBURY

DEPARTMENT OF ENVIRONMENTAL SERVICES,
Concord, NH, April 9, 1998.

MICHAEL PAQUE,
Executive Director, The Ground Water Protection Council,
Oklahoma City, OK.

DEAR MIKE: I am writing this letter to support the continued development at The Ground Water Protection Council (GWPC) Environmental Information Management Source Water Protection Module. I was very impressed at a recent demonstration of this pilot project. The project, when completed. will combine data management and analysis, geographic information system mapping, and interactive Internet publishing. I believe it will be a great tool to assist states in the implementation of Source Water Assessment Programs required by the 1996 amendments to the Safe Drinking Water Act. When fully developed, this system will enhance the ability to protect source waters and make information available to the public using the World Wide Web. As I understand it, it will also allow for electronic reporting on source water protection progress to Congress and the U.S. Environmental Protection Agency. It will also allow for the electronic exchange of data with local source water protection programs and other partners in production such as the Northeast Rural Water Association.

The Safe Drinking Water Act provides considerable flexibility in the implementation of source water protection while at the same time providing some overall national consistency. The system is attractive to states like New Hampshire because it is being developed from the State's perspective. Therefore, it should both address New Hampshire's needs while at the same time providing necessary information to USEPA. The GWPC is providing an excellent service to the states in developing this computer application and New Hampshire DES looks forward to using this system to protect our source water.

Sincerely,

SARAH PILLSBURY,
Source Water Protection Coordinator.

LETTER FROM PATRICK W. RICE

STATE OF NEBRASKA,
DEPARTMENT OF ENVIRONMENTAL QUALITY,
Lincoln, NE, April 8, 1998.

MIKE PAQUE,
Executive Director, Ground Water Protection Council,
Oklahoma City, OK.

DEAR MIKE: I am writing this letter to encourage the Ground Water Protection Council (GWPC) to continue the development of the Environmental Information Management Suite, Source Water Protection Module. We recently learned about some of the features of this software tool and how useful it will be for data management and analysis, geographic information system (GIS) mapping, and possibly Internet publishing, especially in reference to the States' implementation of the Source Water Assessment Program. We are especially excited about this software's

capability to be easily used on any Nebraska Department of Environmental Quality staff's desktop computer with our existing GIS coverages.

When fully developed, this system will enhance our ability to make information available to the public to allow better decisions to be made to protect the state's drinking water. An added advantage will be if the software system is capable of assisting states with their reporting obligations to the USEPA and Congress. Our efficiency and progress in the implementation of the Source Water Assessment Program will be greatly augmented with the use of this tool.

Please consider this letter as an indication of our whole hearted support for the further development of this computer application. The Nebraska DEQ looks forward to using this system to better serve the State's Public Water Supply Systems and implementation of the Source Water Assessment Program, as specified in the 1996 amendments to the Safe Drinking Water Act.

Sincerely,

PATRICK W. RICE,
Assistant Director.

PREPARED STATEMENT OF DR. WILLIAM A. BURKE, CHAIRMAN, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Mr. Chairman my name is Dr. William A. Burke. I am the Chairman of the South Coast Air Quality Management District. First, I want to thank you for the opportunity to testify before you today to express our appreciation for your past support of our air quality management efforts.

My purpose for being here today is to request the support of this committee for providing some specific demonstration funding for the Southern California Air Quality Management program. Our primary reason for this request is that, as you know, our region has been designated by EPA as having the most severe air quality problem in the country. We are also widely recognized as the sole Air Quality program that has developed a number of innovative local air pollution control programs that have been widely replicated throughout the country. Presently we are in a major debate with EPA over their approval of our 1997 Air Quality Management Plan.

Our major problem is that meeting EPA standards will require an even more accelerated effort to develop innovative programs to meet ending deadlines. Failure to meet these deadlines or to obtain EPA approval of our plan will result in increasingly severe federal restrictions which will negatively affect our regional economy. We must rely on new technology and innovative implementation of existing technology or we will not comply. We cannot accelerate this innovation without additional funding this year.

Other Air Quality Management Programs across the country will be facing similar difficulties in the future. Many of these Districts are dependent on the continuing development of the innovative program development in our Los Angeles basin. As a result of this interrelationship between our programs and the compliance of other Air Quality Districts we believe that the demonstration funding will have both immediate and long term national air quality improvement impact.

The thrust of our program has been to clean the air while mitigating the negative impact of Clean Air rules on our citizens and our economy, particularly on our small business owners. To do this we have initiated a number of innovative programs which have been imitated in other parts of the country. We have also significantly improved the air quality in our region despite our continuing population growth. However, in order to meet EPA criteria we will need to expand our already overextended program. To do this we will need additional federal help.

Our financial problem from the beginning has been the limited level of federal funding allowed for the Los Angeles area under the Clean Air Act. With over 12 percent of the population and with the only severe air quality category in the country our state is provided no more than 10 percent of the federal air quality funding. Even with these restrictions the federal grant program has been reduced at the same time that clean air standards have been increased.

We are requesting that you increase the Administration Clean Air compliance program from $190 million to $240 million dollars. We are also requesting that you require the additional $50 million to be designated based on the existing air quality severity with at least 20 percent going to California where the nation's major air quality problems exist. If there is a problem with the legislative restriction of not more than 10 percent of any funding going to one state we would urge you to provide $5.0 million in the EPA appropriations for the implementation of the South Coast Air Quality Management innovative program. Attached is a list of projects to be funded immediately.

This increase in funding and the emphasis on directing monies toward the area under the most stress from poor air quality would be a major step in national public health improvement. We simply can't have the federal government increase standards, increase monitoring costs and increase enforcement without any increase in the federal share for meeting these requirements.

Thank you for your assistance.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT—POTENTIAL PROJECTS FOR CONSIDERATION OF ADDITIONAL EPA GRANT FUNDS (FUNDING AMOUNT—$5,000,000)

Enforcement/Compliance

Identify and educate impacted industries and operators of large water heaters and small boilers (75,000–2,000,000 Btu/hr). Develop field enforcement procedures for these sources. SCAQMD Rule 1146.2 imposes new emission and retrofit requirements on these previously unregulated sources starting in 2000. (Projected cost—$150,000)

Establish, expand, and implement an area source compliance program for non-permitted sources that emit ozone precursors or particulate matter. Identified sources exempt from current AQMD rules will be required to provide limited emissions information and follow standardized operating parameters issued by the AQMD for a source category. An annual compliance checklist will include(s) verification of data like company name, owner and address, plus a few questions specific to the equipment category, such as fuel usage, operating times, etc.

A new compliance program will be developed to provide efficient deployment of resources. Compliance will consist of mailing, along with the annual renewal, a compliance questionnaire requesting specific information on the operation of the source's equipment based upon the equipment category. This audit function will further determine the level of compliance effort which may need to be conducted. System automation of the filing submittals and annual renewals will be required (to minimize the amount of staff necessary to drive this program), as well as development of new forms and enforceable procedures for the source categories. Area source programs, such as this one, have national utility because it can reduce the administrative burden of permitting and decrease costs to industry while maintaining a robust compliance program. Other agencies will have similar needs to balance resources and permitting requirements while securing emission reductions from area sources. (Projected cost—$1,000,000)

Good Science

PM–2.5 Monitoring enhancement: besides the standard set of reference methods, collect additional data to break down concentration to 2-hour or hourly basis (currently collected on 24-hour basis). The current collection does not now provide data on diurnal patterns. The additional data would provide more accurate information as to how pollutants are dispersed through the basin; the data would also help evaluate the PM–2.5 modeling. (Projected cost=$75,000)

Meteorological monitoring: supplement meteorological data by adding profilers (three at $200,000 each). The additional equipment would provide the ability to model any day of the year (instead of doing SCOS). (Projected cost—$645,000)

Evaluate the consolidation of the toxics emission inventory and the criteria emissions inventory for the purpose of compiling a single inventory system. (Projected cost—$150,000)

Evaluate and quantify emissions associated with non-permitted combustion source categories (e.g., small internal combustion engines, small boilers, ovens, dryers). Conduct source tests, if necessary, to develop updated emission factors. (Projected cost—$150,000)

Continue research development of the PM–2.5 model (EPA's model has not yet been proven; there is a need to look at other models to determine most efficient and effective model). (Projected cost—$150,000)

Develop an inventory for non-permitted fugitive emissions from refineries, oil and gas production facilities, and terminals. (Projected cost—$100,000)

Modernize laboratory instruments to provide more accurate data for detection and investigation of pollution problems. (Projected cost—$250,000)

Develop a new annual emission reporting software application to provide additional flexibility for incorporation of new requirements (i.e., rules, policies, and calculation methodologies) which allows the AQMD to compile and audit the annual emission reported data to provide more accurate emissions data for the inventory. (Projected cost—$100,000)

Convert the AQMD's reported annual aggregated emissions into CARB's source code classification. (Projected cost—$100,000)

Environmental Results

Determine what additional reductions can occur to meet the PM–2.5 standards through further research studies. (Projected cost—$125,000)

Research and evaluate potential emission reductions for the new 8-hour ozone standards. (Projected cost—$100,000)

Research and evaluate additional permit requirements needed as a result of the new federal standards. (Projected cost—$100,000)

Partnerships

Develop cooperatives with colleges and universities within the AQMD's jurisdiction to work with graduate students on Masters and Doctorate projects that research, analyze, and document potential solutions emission reduction scenarios. (Projected cost—$50,000)

Pollution Prevention

Research and report on latest technological breakthroughs to reduce emissions of stationary source pollutants, especially VOC and toxic pollutants. Develop and implement demonstration projects to determine feasibility, enforceability, and financial impacts. (Projected cost—$750,000)

Disseminate information through concentrated outreach efforts on the latest technological breakthroughs and new technological methods. Demonstrate equipment that emits less pollutants in industry settings. (Projected cost—$250,000)

Develop an emissions tracking program (computerized database) that would assist companies in tracking and calculating sales and emissions. Architectural Coating manufacturers produce and market their products under various brand names and distribute the products through a variety of different modes (i.e., direct sales, job shops, wholesale distributors, etc.). It will be important to develop an effective means of tracking product sales information. This database can be utilized for the averaging provisions found in AQMD's Rule 1113—Architectural Coatings, as well as for CARB's Consumer Products Rule and its averaging provisions. This database may also be used for compliance with the proposed National AIM Coatings Rule.

This database will assist local, state, and national companies that use averaging provisions to comply with the rules, as well as provide a mechanism whereby industry can determine if use of averaging is the most cost-effective method of compliance. A consideration within the database may be to develop an excess emission fee calculation for companies that want to continue selling non-compliant coatings. The excess emission fees collected would fund additional research and development efforts to lower VOC content of coatings and/or consumer products. This concept also included the proposed National AIM Coatings Rule. (Projected cost—$110,000)

Develop a mechanism to clearly identify the major area source inventory of coatings and solvents usage. A large portion of the solvents and coatings are categorized in the Category of Emission Sources as "Other." The AQMD proposes to more accurately define the sources of emissions in this category, as needed, to identify more VOC reductions and develop control measures on sources where the AQMD has better information. (Projected cost—$100,000)

Evaluate state of the art technology for low-VOC coatings. (Projected cost—$150,000)

Update VOC/PM speciation profiles to reflect VOC product reformulation, toxics regulations, and the introduction of new species. (Projected cost—$150,000)

Research and evaluate a seasonal usage approach for coatings. Determine the financial feasibility and the enforceability of allowing higher emission coatings to be used during non-peak smog seasons. Based on the latest modeling data, and taking into consideration the narrowing ozone season over the past five years, a seasonal coating usage-based rule can be developed to regulate architectural coatings during the peak smog season. Also included would be development of a protocol for determining SIP equivalency for this alternative control strategy. (Projected cost=$100,000)

Environmental Justice

Research, evaluate, and provide field testing equipment which will result in better detection for inspectors to investigate pollution problems in response to public complaints. (Projected cost—$80,000)

Provide outreach to inform public and industry of EPA's newly recommended PSI scale. (Projected cost—$70,000)

LETTER FROM KEN KIRK

ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES,
Washington, DC, April 30, 1998.

Hon. CHRISTOPHER BOND,
Chair, Senate Appropriations Subcommittee on VA, HUD and Independent Agencies, Washington, DC.

DEAR CHAIRMAN BOND: This week your subcommittee is scheduled to begin consideration of the Environmental Protection Agency's (EPA) 1999 funding request. I am writing, for the record, on behalf of the members of the Association of Metropolitan Sewerage Agencies (AMSA) to urge strong federal financial support for our national clean water program.

Our national clean water program is at a crossroad. For 25 years, the Clean Water Act focused almost exclusively on controlling discharges from point sources of pollution and we've made enormous progress towards achieving our clean water goals. But we can no longer rely on the tools of yesterday to solve the water quality problems of today and tomorrow. In AMSA's view, we are not going to achieve our water quality goals unless point and nonpoint sources work together, on a watershed basis, to address the remaining sources of impairment. Congressional support of these efforts is essential. There are significant opportunities to make great progress today towards improving water quality.

Specifically, AMSA urges Congress to fully fund the Administration's Clean Water Initiative to improve controls on nonpoint sources of pollution; reinforce the federal commitment to biosolids recycling by providing $1 million to develop a Code of Management Practices to encourage greater public acceptance of biosolids; and fund the Clean Water State Revolving Fund (SRF) at $2 billion annually to support both point and nonpoint source pollution control efforts.

IN SUPPORT OF THE CLEAN WATER ACTION PLAN

As municipalities struggle to comply with the mandates of the Clean Water Act, their efforts are frustrated by the existence of relatively unregulated nonpoint sources of pollution. Nonpoint source pollution is the single largest remaining source of water pollution today. According to the Environmental Protection Agency, nonpoint sources of pollution are responsible for 60 percent of the country's remaining water quality problems. Rural runoff has been identified as the cause for public health scares, including the recent fish kills caused by "Pfiesteria piscicida" in the waterways of Maryland, Virginia and the Carolinas. As a nation, we can not make significant further progress in cleaning up and maintaining water quality without addressing the significant problems associated with nonpoint sources of water pollution.

During his 1998 State of the Union Address, President Clinton announced the Clean Water Initiative, a planning and funding proposal to redirect the water program. At the heart of the initiative is the Clean Water Action Plan, which was released last February. The plan "aims to achieve clean water by strengthening public health protection, targeting community based watershed protection efforts at high priority areas, and providing communities with new resources to control polluted runoff." The action plan includes new initiatives to reduce public health threats, improve the stewardship of natural resources, strengthen polluted runoff controls, and make water quality information more accessible to the public. Additionally, the plan coordinates the activities of several federal agencies on water quality issues. The Administration has requested $568 million to support this effort. Specifically, $148 million has been requested in the Environmental Protection Agency's (EPA) 1999 budget for the Clean Water and Watershed Restoration Initiative. Funding the Clean Water Initiative overall represents a significant opportunity to make real and substantial improvement to the water quality of rivers, lakes and streams nationwide. We urge you to fully fund the Clean Water and Watershed Restoration Initiative. Additionally, we urge you to support the overall funding request for the Clean Water Initiative and commit to moving the national clean water program forward.

IN SUPPORT OF BIOSOLIDS RECYCLING

An integral component of the national clean water program is the safe and reliable reuse of biosolids. Biosolids are the rich, organic by-product of wastewater treatment, which can be beneficially used as fertilizer on agricultural land, as landfill cover and in a variety of other applications. Five years ago, EPA released its final 40 CFR Part 503 regulations encouraging the beneficial use of biosolids. Misinformation and unfounded fears have undermined progress towards public acceptance of beneficial use activities. An immediate, sustained and strategic effort is es-

sential to ensure that the benefits of this valuable recycled resource are widely recognized and our goal of beneficial use is realized.

In the fall of 1997, AMSA partnered with the Water Environment Federation (WEF), in collaboration with EPA, to form the National Biosolids Partnership to identify and coordinate activities at the local level to promote public acceptance of biosolids beneficial use programs. Beneficial use can be a tough sell in many areas of the country and misinformation often leads to the derailment of local recycling efforts. The ultimate decision for biosolids management rests at the local level with local wastewater management agencies in the best position to identify opportunities for enhancing public perception, encouraging reuse, and supporting the federal government's beneficial use goal. Essential to this process is the development and implementation of a Code of Management Practices to provide local agencies with the information needed to raise biosolids quality above the current conservative regulated levels. This Code will be developed with input from affected stakeholders, as well as include third party verification to strengthen its validity in the public arena. EPA has made $250,000 available to the Partnership in 1998 to develop the Code. Additional funds are necessary to complete the document along with a third party verification mechanism. To ensure essential support for sustainable biosolids activities, and to promote recycling opportunities of this valuable resource, we urge you to appropriate $1 million for this critical National Biosolids Partnership effort.

IN SUPPORT OF THE CLEAN WATER STATE REVOLVING FUND

As our water quality focus shifts to a more comprehensive approach, addressing the control of more complex, costly and diverse sources of pollution, continued federal funding of projects mandated by the Clean Water Act (CWA) is critical to the ultimate achievement of national water quality goals. Last fall, we celebrated the 25th Anniversary of the enactment of the CWA. The CWA is undoubtedly our nation's most successful environmental statute. Through a strong federal financial commitment of grants in the 1970's and early 1980's, and then later the establishment of the Clean Water SRF to provide low interest loans, plus an enormous local investment, municipalities have built and improved upon over 16,000 wastewater treatment plants.

These facilities provide safe and reliable wastewater treatment services to over 70 percent of the nation's population and over 99 percent of the urban population. Additionally, many publicly owned treatment works (POTW's) administer the national industrial wastewater pretreatment program as co-regulators with the Environmental Protection Agency. This program requires more than 200,000 factories nationwide to remove toxic and other harmful pollutants from the effluent prior to discharging to public sewers. Contributions of POTW's to municipalities go far beyond treatment of wastewater. Local economies rely on cleaner rivers, lakes and streams to promote tourism and business development, and preserve wildlife habitat.

There is no doubt that investment in the national clean water program pays. However, we still have a long way to go before we fully realize the fishable/swimmable goals of the Clean Water Act.

In its 1996 Clean Water Needs Survey, the U.S. Environmental Protection Agency (EPA) estimated a total of $139.5 billion in wastewater treatment needs. That total includes: $44 billion for wastewater treatment (includes secondary and advanced treatment); $10.3 billion for upgrading existing wastewater collection systems; $21.6 billion for new sewer construction; and $44.7 billion for controlling combined sewer overflows (CSO's). The survey modeled needs for controlling stormwater at $7.4 billion and for nonpoint source control projects at $9.4 billion.

As high as they are, we believe that EPA's numbers are conservative. Other surveys have estimated much higher costs associated with addressing stormwater, combined sewer overflows and sanitary sewer overflows. To more accurately quantify the nation's wastewater price tag, AMSA and the Water Environment Federation have commissioned a study designed to identify outstanding needs associated with both point and nonpoint source pollution control. We look forward to sharing the results of the survey with you in the next few months when it is completed.

Perhaps more importantly, AMSA's recent financial survey's clearly indicated a significant increase in per capita wastewater debt at the local level with an associated increase in user rates over the last several years. Local users currently fund more than 90 percent of capital improvement projects and 100 percent of operations and maintenance costs. For many communities, these costs are staggering.

For the 1999 budget cycle and beyond, AMSA urges Congress to fund the Clean Water State Revolving Fund at least $2 billion annually to support both point and nonpoint pollution control efforts. In addition, considering the enormity of the price tag, we believe that the results of the AMSA/WEF project will warrant consideration

of reestablishing a federal grants program to support further progress in water quality improvement at the local level.

Our national clean water program is at a crossroad. To address the remaining threats to water quality—nonpoint source pollution, combined sewer overflows, sanitary sewer overflows and stormwater management—we need to think long term, invest wisely, and protect and expand on the improvements we've already realized. There are opportunities to realize significant improvements in the short term, and we look forward to working with you and your colleagues in Congress, the Administration, and state and local government to ensure safe, clean water for all Americans.

Thank you for your support of the clean water program.

Sincerely,

KEN KIRK,
Executive Director.

Note: AMSA represents the interests of more than 180 of the country's publicly-owned wastewater treatment agencies, which collectively serve the majority of the sewered population in the United States, and treat and reclaim more than 18 billion gallons of wastewater each day. Over the past 28 years, AMSA has maintained a close working relationship with both Congress and the U.S. Environmental Protection Agency in the development of environmental legislation and policymaking. AMSA member agencies play a major role in their local communities, often leading watershed management efforts, promoting industrial/household pollution prevention and water conservation, and developing urban stormwater management programs.

PREPARED STATEMENT OF LINO DEALMEIDA, JR., PRESIDENT, NATIONAL UTILITY CONTRACTORS ASSOCIATION

Mr. Chairman and members of the subcommittee, my name is Lino DeAlmeida, Jr. I am President and Chairman of Consolidated Construction Management Services, Inc., headquartered in Colts Neck, New Jersey. I am pleased to submit testimony on behalf of the National Utility Contractors Association (NUCA) and voice our industry's strong support for the U.S. EPA's two state revolving fund programs. NUCA is a family of 1,900 companies that build and repair water, sewer, gas, electric, and communications systems. Our members also supply the materials and services that are necessary for construction of these facilities.

Infrastructure must be in my blood. My father was a heavy construction contractor, and I started with his company at 8 or 9 years old, working summers as a water boy. I gained experience in just about every position—laborer, mason's helper, equipment operator, estimator, job superintendent, project manager, and others. After launching a valuable and enjoyable sabbatical as a litigator, the construction industry (and my father) called me back 20 years ago to oversee the construction of a massive sanitary sewer project. I've been hooked ever since.

I enjoy the competitive challenge of bidding a project. I enjoy the challenge of developing and completing a project, and I particularly enjoy working with and serving people—the people in my company, the people who employ my services, and the public that benefits from the projects we complete.

Environmental infrastructure projects are essential public assets that generate enormous benefits. They strengthen communities and improve people's lives immediately. They are a lifeline that transcends local and state boundaries. We can and must build, improve, and maintain them. Let me assure you that the costs of poor environmental infrastructure are very high. I've seen raw sewage pour out of broken or inadequate pipelines and into natural waterways. I've seen failed leaching systems. I've seen broken water mains gush. I've seen sewer moratoriums shut down economic development. I've also seen communities with no facilities at all. It's never a pretty picture.

My testimony consists of several observations. First, the EPA's Clean Water State Revolving Loan Fund Program (Clean Water SRF) is an infrastructure financing success story. Second, environmental infrastructure needs are massive. Third, additional federal capitalization of the Clean Water SRF and the fledgling Drinking Water SRF in fiscal 1999 and beyond will grow these funds so that environmental infrastructure needs can be fully addressed in perpetuity.

A REPORT CARD ON THE STATE REVOLVING FUND

A 10-year progress report on the Clean Water SRF was published in January by the Council of Infrastructure Financing Authorities and the Environmental Financial Advisory Board. The report demonstrates that the Clean Water SRF is an outstanding taxpayer investment. Here are some of the highlights.

—The 51 SRF's constitute a loan pool of more than $24 billion. As of June 30, 1997, 82 percent of the available funds had been loaned (including 5,680 separate loans). This ratio of SRF assistance as a percent of available SRF funds has steadily improved since the program's inception in 1987. Growth in lending has also been steadily rising, soaring to nearly 1,000 loans in both 1996 and 1997. The program is working effectively to build wastewater treatment systems, which, in turn, strengthen the tax base, protect public health, clean the environment, and provide a better overall quality of life.

—Total federal capital grants of $13.2 billion have been nearly doubled by other SRF funding sources including state contributions ($2.7 billion), leveraged bonds ($8.8 billion), and principal and interest payments ($4.3 billion). Loan repayments and interest in 1997 alone were nearly $1.2 billion. The program operates like a community bank and represents a true national partnership with states and localities. The program pays.

—Communities of every size participate in the program. While most of the cumulative assistance has gone to larger communities, most of the loans have gone to smaller communities.

We are confident that the new Drinking Water SRF will replicate this success.

A REPORT CARD ON THE CONDITION OF OUR ENVIRONMENTAL INFRASTRUCTURE

The SRF programs are effective, but they are not big enough to handle present and future financing needs. Water supply and wastewater facility needs are well documented and alarming in scope. Much of the need is created by population growth, economic growth and development, and the decay of facilities that have exceeded their life expectancies.

Last September, the EPA released its latest clean water needs survey, a joint effort between the states and the EPA. The report concludes that total 20-year Clean Water SRF-eligible needs exceed $139 billion. In a similar survey last year, the EPA reported 20-year drinking water infrastructure needs of $138 billion. In both cases, it is primarily pipelines that need to be built, repaired, or replaced. Also in both cases, the numbers are daunting. Furthermore, a 1998 U.S. Infrastructure Report Card was recently issued by the American Society of Civil Engineers. Drinking water and wastewater facilities received D and D+ grades respectively.

We need to fix the cruddy pipes. There is no alternative. The average American uses 100 gallons of water daily just at home. The water has to be delivered. More than 100 virus types can occur in human feces. Proper collection and treatment is necessary to destroy the infectious particles. It takes 20 gallons of water to produce a pound of steel, and a typical office requires 14 gallons per employee per day. Again, all this water must be treated and transported before and after consumption.

CONCLUSION

The SRF programs are effective environmental infrastructure financing tools that are becoming more attractive to potential borrowers every year. In light of the magnitude of the water and sewer infrastructure gap, we trust that the subcommittee will continue to provide seed money for years to come.

NUCA is working with an infrastructure research and consulting firm to develop state-of-the-art economic models that can be used to evaluate the effects of various investment scenarios. We will provide this information to the subcommittee as it becomes available in the coming weeks. Until then, we are hesitant to recommend specific funding levels for the two SRF's for fiscal year 1999. We also wish to extend an invitation to the subcommittee to use these models when they are completed.

Thank you.

LETTER FROM HOWARD A. ROITMAN

ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS,
Washington, DC, April 24, 1998.

Hon. CHRISTOPHER S. BOND,
Chairman, Subcommittee on VA, HUD and Independent Agencies Appropriations, U.S. Senate, Washington, DC.

DEAR SENATOR BOND: It is the practice of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) to provide comment from the perspective of the State program managers of solid and hazardous waste concerning the annual environmental budget proposed by the U.S. Environmental Protection Agency (EPA). Your Appropriations Subcommittee will soon be conducting hearings and

making funding decisions regarding the EPA's fiscal year 1999 environmental budget proposal, and we know that you will move swiftly to finalize your recommendations for the full Appropriations Committee.

ASTSWMO is a nonprofit association whose members are the directors of the State solid and hazardous waste regulatory programs. We believe that our members, as practicing waste managers implementing State and certain delegated federal program activities, have gained practical insights into the operation of the statutes and regulations which make up national policy for solid waste management and remediation programs. Consequently, they are well positioned to advise the Subcommittee regarding budgetary implications for those programs. We believe that as State program implementers, we have a special responsibility to address the budget for the national waste programs, and to share that evaluation with your Subcommittee. We trust the Subcommittee will recognize that our views are entirely bipartisan, representing the professional opinions of State government managers who, like you, must balance resources with genuine environmental needs. We have no special interests other than to ensure that we can carry out effective, environmentally sound programs in the manner prescribed by federal and State statutes and regulations. We respectfully request that this letter be made a part of the record of your Subcommittee's consideration of EPA's fiscal year 1999 proposed program.

Your Subcommittee has a strong track record in support of sound State waste management programs and I would like to express our continued appreciation for that support. In this letter, we would like to address several of the waste-related issues in the fiscal year 1999 EPA budget:

Hazardous waste program grants to states.—The current Presidential fiscal year 1999 EPA Budget proposal indicates no growth for the Hazardous Waste categorical grants. Unfortunately, this continues and worsens the steady erosion of these essential funds to support the execution of federally mandated rules for both the hazardous waste and underground storage tank (UST) regulatory and enforcement programs. As the Subcommittee knows, EPA does not implement these protective and preventative rules; States do. Yet, while EPA has increased its own budget proposals by substantial amounts in recent years, it has held State hazardous waste funds at minimum increases, and this year no increase at all. We appreciate that Congress has provided these grant funds at the proposed level without challenge during this same period, but we think it is time to identify this shortcoming in the Administration's budget for what it is, a growing, serious problem for State waste programs.

While the EPA budget continues to propose some interesting initiatives, someone has to stay at home and implement the current statutes. That "someone" has been State waste programs and we are beginning to be stretched very thin by this allocation of funds to federal initiatives over regulatory compliance. For example, the fiscal year 1997 enacted funding for the hazardous waste financial assistance program was $98,298,200 (the requested amount) and the fiscal year 1998 enacted funding was $98,598,200 (again, the requested amount). In fiscal year 1999 there is not even a minor increase, so States are actually losing ground as their program responsibilities continue to grow, and the rate of inflation in their costs is not balanced.

The regressive impact will be even more apparent in the UST program where EPA has announced a major enforcement effort to press for compliance with the regulatory upgrades required of all UST owners before December 22, 1998. Our own estimates, based on the fiscal year 1997 reports of 27 participating State programs, indicate we are at an overall rate of compliance of 41 percent with that goal. Moreover, our members believe that the bulk of those tanks not yet in compliance belong to small operators, historically among the most demanding customers to bring aboard through intense compliance assistance programs. Yet, under the EPA proposed budget, this categorical grant remains at $10,544,700, exactly where it has been frozen since fiscal year 1997. When you divide that equally among 50 States, you will see why we cannot gain much ground at this funding rate.

Leaking underground storage tanks cleanups.—Keeping with the theme of supporting underground tank programs, we are also disappointed to see the Administration set such a low threshold for fiscal year 1999's Leaking Underground Storage Tank (LUST) Fund expenditures. Last year's appropriation of these already collected trust funds was $65,000,000, and the task ahead is enormous. For some reason, the Administration has set its goal at only $71,000,000 ($69,100,000 for actual cleanup work) for fiscal year 1999. We know the so-called "pipeline" of sites awaiting these cleanups is full, States make up the vast balance of this funding along with responsible parties, and of those thousands of UST's still out of compliance, many will simply walk away, leaving leaking tanks behind. We cannot explain why EPA has set this threshold so low, yet leaking tanks reportedly remain the major source of ground water contamination. If States are given more resources in this common area of site contamination, we can make great strides. For example, in fis-

cal year 1993 States received $83,610,000 in LUST funding, and managed to achieve 31,621 tank cleanups as a result. Consequently, we suggest the Subcommittee explore this budget element for a substantial increase if we are seeking significant results.

Superfund.—Finally, we would like to address the federal Superfund program request for fiscal year 1999 funds. This is fundamentally a federal program in its current statutory configuration. State program managers have a critical interest in the way EPA conducts that program. Congress recognized this by providing a statutory provision requiring the meaningful participation of States in site decisions, and has provided some funding to make that State involvement possible. Also, States must shoulder 10 percent of fund financed site costs as their share of the cleanup. In addition to the NPL sites, programs such as Brownfields depend upon State site management under voluntary cleanup programs or State Superfund cleanup laws. The net result is that States care very much about progress in Superfund cleanups, and continue to do their share to move that program along.

In fiscal year 1999 EPA plans to continue these programmed cleanups and perhaps accelerate them. Our members must be supportive of continued progress in this federal cleanup program as long as it involves a partnership in selecting and prioritizing new cleanups. We have discussed this with EPA and have their assurances that the Regions will work with States as new work is selected and scheduled so that State priorities are considered, and the work requiring State resources to achieve the meaningful involvement required considers the State's ability to work alongside their federal counterparts. It is especially important that any NPL starts which will begin under fund lead, and which require State matching funds, must have prior State concurrence to ensure that the money can be obtained from State legislatures in time to proceed. Consequently, we tend to look at this issue as one that will be resolved on a local basis, as Regions and State programs work through the difficult decisions of site-by-site costs and benefits. We understand that Congress must address this proposed increase on a national level, but until these site decisions can be worked out at the Region-State level, we are unable to put forward a collective view about the overall funding levels. We do believe that funding is important for those sites where EPA and States have agreed.

On a national basis, we are much more troubled to see that the remaining balance of the Superfund trust fund is being spent down with little indication that CERCLA will be reformed and reauthorized in time to ensure funding at least at current levels by fiscal year 2000. We say this with no intent to be critical of any party engaged in the extremely difficult reauthorization efforts. We too have been very active in this debate, and so we are more aware than many of the very deep divisions of views and convictions that make agreement so difficult. We commend those members of Congress who have kept these negotiations moving long after many would have given up, and count ourselves among those still committed to reaching resolution in the 105th Congress.

However, our members recall the 1984–85 period of uncertainty when responsible parties began to have doubts about the future and federal offices were concerned with future contracting in periods where funds were not yet authorized or appropriated. This uncertainty had the effect of delaying a significant number of cleanups. As a matter of contingency, we urge Congress to begin to consider how we can avoid such a hiatus in the event CERCLA cannot be reauthorized in the current situation, and provide some degree of certainty to the program beyond fiscal year 1999. We have no specific recommendations, but we hope that if it is not possible to reauthorize the statute and reestablish some flow of income for the trust fund, the Appropriations Committees will find some way to assure the nation that the Congress can and will keep the cleanup constructions going into fiscal year 2000. We should not go into development of a fiscal year 2000 federal budget without some degree of certainty. The Subcommittee's goal to support these cleanups has always been clear, but we hope that you can establish that sense of continuity to those directly involved in planning future CERCLA cleanups.

In closing we thank you for your consideration of our views and for your past support of State waste program efforts. Your Subcommittee has been key to adequate funding of that program in past budget years and we have great confidence that you will be central to a successful outcome for the fiscal year 1999 process as well. We are ready at any time to assist your staff in exploring our proposals in greater detail, and would welcome their inquiries. Should you consider it useful to the Subcommittee, we would volunteer to testify on any aspect of our program knowledge as you proceed with the difficult task of evaluating national needs and making the hard choices that lie ahead. Please contact ASTSWMO's Executive Director, Thomas Kennedy, at telephone number (202) 624–5828 or fax number (202) 624–7875 for any further information or assistance.

We hope that our information will constructively assist you in that task. Thank you for your past support of waste program efforts, and for your consideration of these recommendations.

Sincerely,

HOWARD A. ROITMAN,
President.

PREPARED STATEMENT OF THE UNIVERSITY OF MIAMI

Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to present testimony on behalf of the University of Miami. There are three very important projects which the University is working on and looking for your support: the first project, a joint collaboration between the University of Miami, Florida State University, the University of Florida and the University of South Florida concerning El Niño; the second, the formation of a National Center for Coral Reef Studies, which builds on the University's long history of leadership in U.S. coral reef research; and our third project, funding a demonstration project to handle medical waste treatment facility.

EL NIÑO CONSORTIUM

On behalf of the University of Miami and Florida State University jointly I commend you, Mr. Chairman, for your affirmative response to the Florida Delation's earlier requests concerning The Florida Consortium for Climatic Research, a project involving the University of Miami, Florida State University, the University of Florida, and the University of South Florida.

The importance of El Niño South Oscillation (ENSO) events as a major source of climate fluctuations, together with advances in ENSO predictability, suggest that forecasts have significant potential for benefitting agricultural productivity and economic decision-making. For fiscal year 1999, we seek $3 million for the Florida Regional Application Center.

The geographic focus of the project will include the southeastern U.S., a large food producer whose productivity is significantly impacted by weather conditions generated by the ENSO phenomenon. Decisions made by well-informed participants from farm to policy level, made several months or seasons in advance, can significantly benefit productivity.

This project presents an end-to-end approach that will provide the bridge between climate and forecast producers, such as the recently-formed International Research Institute for Climate Prediction (IRICP), and agricultural decision makers. Specific objectives for the project are to: (1) adapt, develop, and evaluate a generic, flexible set of tools and methodologies for assessing regional agricultural consequences of El Niño events and for applying forecasts to improve agricultural decision-making; (2) demonstrate by successful applications of forecasts to agriculture and other sectors which would benefit best in the southeastern United States that began in 1996; and (3) assess the value of climate predictions to different agricultural sectors in these southeastern region.

NATIONAL CENTER FOR CORAL REEF STUDIES

Local changes in water quality, broader scale environmental changes potentially related to global climate change such as global warming, and fisheries over-exploitation of coral reef ecosystems, are known to be contributing to deterioration of coral reefs world-wide. Scientists are hampered in helping government make critical and socially difficult management decisions by our rudimentary understanding of coral reef ecosystem processes. Coral reef environmental research has historically been piece-meal and underfunded, with few attempts at true interdisciplinary process-oriented research.

We respectfully request that $2 million in funding by EPA be made available to establish a National Center for Atlantic and Caribbean Coral Reef Studies. These funds will be used by the Center to foster greater organization and collaboration within the U.S. scientific community, to develop a new level of understanding about the processes and environmental conditions necessary for the establishment, survival and sustainable use of coral reef ecosystems, and to assist in the transfer of this information to managers and the general public. The Center will establish visiting professorships and small interdisciplinary working groups, comprised of preeminent U.S. and international scientists. The tasks of these groups will be to synthesize and integrate existing information, and to develop new approaches to studying specific and significant gaps in our understanding of coral reef function. The

Center will also assemble small groups of scientists to conduct pilot projects to demonstrate the feasibility of the proposed new approaches. The Center will involve young scientists from throughout the region, as post-doctoral fellows, and thus contribute to the training of the next generation of coral reef scientists. This thoughtful approach to coral reef science would be unique in the United States.

ELECTRON BEAM TECHNOLOGY FOR TREATING MEDICAL WASTE

Recent EPA regulations limiting emissions from medical waste incinerators have forced all hospitals to reconsider their medical waste treatment approaches. Considering the fact that most hospitals utilized incineration processes in the past, it is clear that these new regulations have forced huge numbers of medical facilities to explore alternative technologies to incinerate. The first technology to be explored in replacement of incineration is autoclaving. However, this has always been a particularly troublesome technology for hospitals, due to odors, maintenance of the equipment and the requirement to subsequently dispose of a very unmanageable residue.

While several new technologies have evolved over the past few years, in an attempt to replace incineration, none have been demonstrated to efficiently deal with the problem of infectious medical waste. Technologies that totally destroy the waste for example are extremely expensive, and equipment that is included in these designs, remains untested and therefore, will require an inordinate amount of maintenance over the life of the equipment.

One technology that shows promise for handling infectious medical waste is high energy electron beam treatment of the waste. This technology renders waste disinfected and therefore capable of being co-mingled with non-medical solid waste. Once the medical waste has been disinfected, it can be further processed for instance, by shredding to reduce volume, if that is an issue in selected communities. Usually, the volume of medical waste is not a consideration, only its infectious nature.

Funding from the Department of Energy, Florida Power & Light Company (a utility in South Florida), the Electric Power Research Institute and the University of Miami have supported development of electron beam technology for treatment of hazardous medical waste. Utilizing close to $2 million in funds, the world's first prototype facility, capable of treating up to 500 lbs per hour, was constructed at the Jackson Memorial Hospital/University of Miami Medical School Complex in Miami, Florida. This new and unique facility includes an 8 million volt linear accelerator, coupled with a conveyor system and commercial shredding facilities. The facility was inaugurated in 1997, and since that time has undergone some modifications to the equipment, as well as testing in order to obtain permits for operations from State regulatory agencies. In early 1998, a license to operate as a medical waste treatment facility was issued by the State of Florida, therefore, making this facility the first licensed medical waste treatment facility utilizing electron beam technology in the world. This facility now is poised to demonstrate its treatment efficacy and cost effectiveness on real medical waste generated within the hospital complex at Jackson Memorial Hospital in Miami, Florida.

It is respectfully requested that the EPA provide $1.5 million to support the demonstration of electron beam technology for treating infectious medical waste in Miami, Florida, utilizing the unique facilities recently constructed there. In order for the technology to become commercially acceptable, demonstrations on actual medical waste generated in hospitals must be undertaken. The facility is located on the Jackson Memorial Hospital/UM Medical School Complex in Miami, and therefore, there is ready access to all types of medical waste generated in this complex. The complex comprises approximately five hospitals with a total bed capacity of close to 2,700. Therefore, all types of medical wastes are generated in this facility and can be tested through the electron beam process. EPA support of this technology would help in the agency's efforts to identify new technologies to offset the phasing out of medical waste incinerator capacity due to the recent USEPA regulations.

Studies supported by the above request would focus on the ability of waste from designated sections of the hospital to be treated by the electron beam system. Experiments would monitor the treatment efficiency, as well as power requirements, to achieve selected degrees of treatment. Dosimetry experiments would also need to be run in order to verify total waste treatment, when exposed to the electron beam field. Other studies will include an evaluation of volume reduction capacities, due to shredding, utilizing commercial equipment already available at the facility. In addition to the above fundamental work, selected sections of the hospital will be reinstrumented with collection facilities to make the actual handling of medical waste more safe, and simple for hospital staff. The E-beam system will be coupled with a shredding system, therefore, the product leaving the treatment plant will be a dis-

infected material with a volume reduction of approximately 80 per cent. Landfills in the South Florida area receiving these residuals will be monitored both for acceptance by the municipalities as well as the behavior of the shredded medical waste.

This full scale demonstration will allow for a determination of the overall treatment efficiency of the electron beam process. In addition, true costs can be generated, because of the scale of the facilities, which will then be utilizable by agencies and municipalities interested in this technology. Once this demonstration has been concluded, this technology then can be readily commercialized as the full scale data will be available to the public.

Mr. Chairman and Members of the Subcommittee, thank you again for your time and allowing me to provide information on these three very significant projects.

PREPARED STATEMENT OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

Mr. Chairman and Members of the Subcommittee: The American Society of Civil Engineers (ASCE) is pleased to have this opportunity to comment on the administration's fiscal 1999 budget request for the Federal Emergency Management Agency's (FEMA) National Dam Safety Program.

ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents more than 120,000 civil engineers in private practice, government, industry and academia who are dedicated to the advancement of the science and profession of civil engineering.

ASCE has a long standing interest in FEMA's mitigation program. This program provides for the development, coordination and implementation of policies, plans and programs to eliminate or reduce the long-term risk to life and property from natural hazards such as floods, earthquakes and dam failures.

FISCAL YEAR 1999

First, we would like to begin by thanking the members of this subcommittee for their support last year in providing the full funding of $2.9 million for the National Dam Safety Program—the first national program of this type aimed toward preventing dam failures. ASCE commends Chairman Bond, in particular, for his continued support and leadership on this important issue.

ASCE believes the $2.9 million is a solid starting point for states to begin improving their dam safety programs. However, dam safety is not a one-year program and much more work needs to be done to ensure that the nation's 93,000 dams continue to work effectively and safely. The inspection and maintenance of our nation's dams is an on-going problem, and requires continued attention to avert potentially catastrophic consequences.

Notwithstanding the immense benefits to be gained, the administration's fiscal 1999 budget request of $1.5 million falls woefully short of the $3.9 million authorized in the Act; and more importantly, it is inadequate to implement the National Dam Safety program in even a minimally acceptable manner. This request is an alarming step backwards for public safety at a time when states—which are struggling with minimal budgets and staff—are just beginning to make their first real progress toward the establishment of truly meaningful safety programs.

Annual budgets in some states average less than $10 per dam; and in some cases, one employee has the responsibility to inspect and evaluate more than 2,500 dams. A handful of states do not even have adequate programs in place to regulate the safety of their dams. The National Inventory of Dams revealed that a majority of high or significant hazard dams do not have Emergency Action Plans in place which would mean the difference between timely downstream evacuation and disaster.

For these reasons, ASCE respectfully requests this subcommittee's support for additional funding of $2.4 million in fiscal year 1999 for FEMA to implement the program in accordance with the intent of the Act. This modest, yet vital, funding will enable the states to improve their fledgling dam safety programs, which in turn, will translate into reduced risks to life and property. Dam failures are extremely expensive from all points of view, and we should give special attention to the old adage that "An ounce of prevention is worth a pound of cure."

The following activities will be funded through this appropriation:

—$2 million for incentive grants to states to upgrade their dam safety programs;
—$500,000 for training State Dam Safety Staff;
—$1 million for research to improve the techniques and equipment for rapid and effective dam inspections; and
—$400,000 for salaries and expenses for FEMA to administer the program.

DAM REPAIR COSTS

Dam failures affect thousands of lives and cost millions of dollars. The 1976 failure of the Teton Dam resulted in damages of $900 million and 11 fatalities. The failure in July 1982 of Lawn Lake Dam, a small earth embankment, produced $35 million in damages and three fatalities. In 1996, the failure of a small dam in New Hampshire resulted in one death and $5.5 million in damages.

DAM CONDITIONS

Reports show that an alarming number of dams across the country are showing signs of age and lack proper maintenance. The American Society of Civil Engineers, in its recently released 1998 report card on the nation's infrastructure, estimates that it will take over $1 billion to rehabilitate the 1,800 dams that have been identified as unsafe in the United States.

Downstream development is increasing. Most older dams were built without adequate spillways to release water in heavy rains, which causes water to run over the top. Inadequate spillway capacities are the most common deficiency and a major cause of dam failures. Dam safety officials estimate that thousands of dams are at risk of failing or are disasters waiting to happen. One-fourth of all U.S. dams are more than 50 years old, and by the year 2020 that figure is expected to increase to 85 percent.

Approximately 9,280 regulated dams nationwide are considered to be high-hazard (category I), meaning that their failure will likely cause loss of life and significant property damage. Even more significant are the roughly 1,800 regulated dams that are considered to be unsafe. Many of these are also in high-hazard locations. This means they have deficiencies which leave them more susceptible to failure. Thirty-five percent of the high-hazard dams have last inspection dates prior to 1990. Thousands of other dams are in need of rehabilitation to keep them from becoming unsafe. These repair projects are on hold because of a lack of funding.

Equally alarming is the fact that many dams built more than 50 to 100 years ago have been abandoned and the owners are unknown. These dams are not inventoried, inspected or regulated, and no one is volunteering to pay for their repair.

Many civil engineers involved in the operation, maintenance and inspection of the nation's dams know all too well the risks associated with unsafe dams in high-hazard locations. In North Carolina alone there are 874 dams in "high-hazard" locations with 40 classified as unsafe.

A complete chart of states' dam inventory data is included at the end of this written testimony.

CONCLUSION

In closing, ASCE strongly urges this subcommittee to recognize the benefits of this modest investment in public safety by providing additional funding of $2.4 million to enable FEMA to implement the National Dam Safety Program.

ASCE looks forward to working with the subcommittee and its staff on this critical public safety issue.

1998 STATE DAM INVENTORY DATA

State	Total national inventory [1]	Total State regulated [2]	State high-hazard [3]	State reg. unsafe [4]	Government ownership [5]
Alabama	1,570	1,704	184	150	25
Alaska	99	87	18	.....	55
Arizona	315	214	73	23	173
Arkansas	927	427	98	25	363
California	523	1,232	394	.....	536
Colorado	1,648	1,808	292	189	428
Connecticut	707	3,230	236	NR	251
Delaware	73	98	9	NR	75
Florida	572	NR	NR	NR	15
Georgia	4,853	3,311	366	57	634
Hawaii	129	129	56	.....	29
Idaho	343	431	100	13	80
Illinois	1,226	1,226	156	NR	387
Indiana	1,001	1,506	245	NR	316

1998 STATE DAM INVENTORY DATA—Continued

State	Total national inventory [1]	Total State regulated [2]	State high-hazard [3]	State reg. unsafe [4]	Government ownership [5]
Iowa	2,465	2,514	66	2	1,437
Kansas	6,077	9,899	200	51	1,363
Kentucky	955	924	147	.....	NR
Louisiana	381	311	12	.....	90
Maine	617	694	23	59	57
Maryland	273	361	56	6	162
Massachusetts	1,528	2,921	333	21	685
Michigan	909	1,191	83	NR	378
Minnesota	932	852	40	NR	532
Mississippi	3,191	3,328	238	10	121
Missouri	4,032	614	195	20	206
Montana	3,517	3,219	153	13	795
Nebraska	2,029	2,029	92	.....	1,027
Nevada	323	577	106	8	74
New Hampshire	613	3,106	87	.....	364
New Jersey	806	1,580	183	32	350
New Mexico	501	522	160	3	152
New York	1,633	5,645	372	57	676
North Carolina	2,699	4,646	874	40	199
North Dakota	770	1,308	26	5	191
Ohio	1,766	2,703	502	450	505
Oklahoma	4,510	4,380	145	5	150
Oregon	833	3,733	122	.....	186
Pennsylvania	1,315	2,886	735	7	501
Puerto Rico	36	36	33	.....	31
Rhode Island	185	506	17	.....	80
South Carolina	2,252	2,242	149	3	283
South Dakota	2,392	2,252	48	4	140
Tennessee	1,044	593	136	28	382
Texas	6,838	7,247	818	403	2,734
Utah	654	1,948	214	41	198
Vermont	343	1,001	51	NR	141
Virginia	1,581	482	103	50	360
Washington	653	865	94	13	238
West Virginia	537	354	248	49	233
Wisconsin	1,291	1,080	192	NR	618
Wyoming	1,216	1,332	64	3	221
Total	74,467	93,952	9,280	1,837	19,006

[1] Includes federal and non-federal dams over 25 ft. in height or 50 acre-feet in volume; or anything above 6 ft. in height with downstream damage potential should it fail.

[2] Includes all dams under state regulatory control.

[3] High-Hazard by state definition derived from state inventory in column 2.

[4] Dams with identified deficiencies by state definition (varies state to state) derived from state inventory in column 2.

[5] Derived from national inventory in column 1.

Note: Inventory sizes vary from state-to-state because of number of dams, but also because state laws vary on which dams are included under their jurisdiction.

NR—Not Reporting. Some states do not keep data on ''high-hazard'' and/or ''unsafe'' categories.

ASCE
American Society of Civil Engineers

1998 Report Card for America's Infrastructure

Subject	Grade	Comments
Roads	D-	More than half (58 percent) of our roadways are in poor, mediocre or fair condition. More than 70 percent of peak-hour traffic occurs in congested conditions. It will cost $263 billion to eliminate the backlog of needs and maintain repair levels. Another $94 billion is needed for modest improvement -- a $357 billion total.
Bridges	C-	Nearly one of every three bridges (31.4 percent) is rated structurally deficient or functionally obsolete. It will require $80 billion to eliminate the current backlog of bridge deficiencies and maintain repair levels.
Mass Transit	C	Twenty percent of buses, 23 percent of rail vehicles, and 38 percent of rural and specialized vehicles are in deficient condition. Twenty-one percent of rail track requires improvement. Forty-eight percent of rail maintenance buildings, 65 percent of rail yards and 46 percent of signals and communication equipment are in fair or poor condition. The investment needed to maintain conditions is $39 billion. It would take up to $72 billion to improve conditions.
Aviation	C-	There are 22 airports that are seriously congested. Passenger enplanements are expected to climb 3.9 percent annually to 827.1 million in 2008. At current capacity, this growth will lead to gridlock by 2004 or 2005. Estimates for capital investment needs range from $40-60 billion in the next five years to meet design requirements and expand capacity to meet demand.
Schools	F	One-third of all schools need extensive repair or replacement. Nearly 60 percent of schools have at least one major building problem, and more than half have inadequate environmental conditions. Forty-six percent lack basic wiring to support computer systems. It will cost about $112 billion to repair, renovate and modernize our schools. Another $60 billion in new construction is needed to accommodate the 3 million new students expected in the next decade.
Drinking Water	D	More than 16,000 community water systems (29 percent) did not comply with the Safe Drinking Water Act standards in 1993. The total infrastructure need remains large -- $138.4 billion. More than $76.8 billion of that is needed right now to protect public health.
Wastewater	D+	Today, 60 percent of our rivers and lakes are fishable and swimmable. There remain an estimated 300,000 to 400,000 contaminated groundwater sites. America needs to invest roughly $140 billion over the next 20 years in its wastewater treatment systems. An additional 2,000 plants may be necessary by the year 2016.
Dams	D	There are 2,100 regulated dams that are considered unsafe. Every state has at least one high-hazard dam, which upon failure would cause significant loss of life and property. There were more than 200 documented dam failures across the nation in the past few years. It would cost about $1 billion to rehabilitate documented unsafe dams.
Solid Waste	C-	Total non-hazardous municipal solid waste will increase from 208 to 218 million tons annually by the year 2000, even though the per capita waste generation rate will decrease from 1,606 to 1,570 pounds per person per year. Total expenditures for managing non-hazardous municipal solid waste in 1991 were $18 billion and are expected to reach $75 billion by the year 2000.
Hazardous Waste	D-	More than 530 million tons of municipal and industrial hazardous waste is generated in the U.S. each year. Since 1980, only 423 (32 percent) of the 1,200 Superfund sites on the National Priorities List have been cleaned up. The NPL is expected to grow to 2,000 in the next several years. The price tag for Superfund and related clean up programs is an estimated $750 billion and could rise to $1 trillion over the next 30 years.

America's Infrastructure G.P.A. = D
Total Investment Needs = $1.3 Trillion

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Inadequate

Each category was evaluated on the basis of condition and performance, capacity vs. need, and funding vs. need.

American Society of Civil/Engineers' "1998 Report Card for America's Infrasture"

Roads	D–
Bridges	C–
Mass Transit	C
Aviation	C–
Schools	F
Drinking Water	D
Wastewater	D+
Dams	D
Solid Waste	C–

Hazardous Waste	D
Average grade	D

National Council on Public Works Improvement's 1988 "Report Card on the Nation's Public Works"

Highways	C+
Mass Transit	C−
Aviation	B−
Water Supply	B−
Wastewater	C
Water Resources	B
Solid Waste	C−
Hazardous Waste	D
Average grade	C

ASCE cautions against directly comparing its grades with the Council's grades. Although ASCE examined largely the same categories as the Council did in 1988, there are differences worth noting. ASCE added a category on school buildings and divided the Council's "highways" category into two categories: "roads" and "bridges," to more specifically reflect their conditions. The Council also focused on ports, inland waterways and flood-control dams in its "water resources" category. ASCE chose to focus on the nation's dams.

ASCE experts based their evaluations on existing reports (see corresponding Issue Briefs for each category). ASCE determined its grades by evaluating the infrastructure's condition, performance, capacity and funding.

ASCE's 1998 Report Card for America's Infrastructure Advisory Panel:

—*Charles A. Parthum*.—He is chair of ASCE's Committee on Government Affairs, and is a past-president of the Society. He is a consultant for the environmental engineering firm Camp Dresser & McKee in Cambridge, Mass.

—*Dr. C. Michael Walton*.—He is chair of ASCE's National Transportation Policy Committee, and chair of the Department of Civil Engineering at the University of Texas at Austin. He has served on a number of government-appointed national study panels, and review committees for the Transportation Research Board and the National Research Council.

—*Virginia Valentine*.—She is chair of ASCE's National Infrastructure Policy Committee, and serves on ASCE's Board of Direction. She is a senior vice president for the water resources engineering firm Post, Buckley, Schuh & Jernigan, Inc., in Las Vegas.

—*Robert T. Chuck*.—He is chair of ASCE's National Water Policy Committee, and is the Pacific Islands Water Resources Manager in the Honolulu office of the environmental engineering firm CH2M Hill.

—*Conrad G. Keyes, Jr.*.—He is chair of ASCE's National Environmental Systems Policy Committee, and is the principal planning engineer for the U.S. Section of the International Boundary & Water Commission of the U.S. and Mexico.

PREPARED STATEMENT OF THE ASSOCIATION OF STATE DAM SAFETY OFFICIALS

Mr. Chairman and members of the Subcommittee: The Association of State Dam Safety Officials (ASDSO) is pleased to have the opportunity to comment on the Clinton Administration's fiscal year 1999 budget request for the dam safety program in the Federal Emergency Management Agency's (FEMA) budget.

ASDSO is a national organization of more than 1,500 state, federal and local dam safety officials and private sector individuals dedicated to improving dam safety through research, education, and communication. Our goal is to save lives, prevent damage to property and maintain the benefits of dams by preventing failures. Several devastating dam failures occurring in the late 1970's focused attention on the need for stronger coordination of dam safety programs at state and federal levels and led to the establishment of ASDSO in 1984.

I would like to begin by thanking the members of this subcommittee for their support last year in providing the full funding of $2.9 million for the National Dam Safety Program. In particular, ASDSO wishes to recognize and thank Senator Bond for his leadership and commitment to ensuring that this program was fully funded in last year's spending bill. This money has provided the states with the opportunity to fund research activities to improve the techniques and equipment for inspections

and monitoring of dams and to set up training programs for state dam safety inspectors.

We believe the $2.9 million offers a solid starting point for states to begin improving their dam safety programs. However, dam safety is an ongoing effort and much more work needs to be done to ensure that the nation's 93,000 dams continue to work effectively and safely. Reports show that an alarming number of dams across the country are showing signs of age and lack proper maintenance. By 2020, more than 85 percent of our dams will be more than 50 years old, which is the typical design life of a dam.

The Administration's fiscal 1999 budget request of $1.5 million falls short of the funds needed to successfully administer the program. It is also well below the $3.9 million authorized in the Act. States are just beginning to use the $2.9 million to upgrade their dam safety programs, and to reduce these funds in fiscal 1999 would be extremely short-sighted.

ASDSO, therefore, respectfully requests this Subcommittee's support for an additional increase of $2.4 million to fully fund the National Dam Safety Program at the $3.9 million authorized level. In doing so, we would also request that the $400,000 authorization for additional staff to administer the Program in FEMA be specifically earmarked for that purpose, including 4 work-years.

The following activities will be funded through this appropriation:

—$2 million for incentive grants to states to upgrade their dam safety programs;
—$500,000 for training State Dam Safety Staff;
—$1 million for research to improve the techniques and equipment for rapid and effective dam inspections; and
—$400,000 for salaries and expenses for FEMA to administer the program.

This modest, yet vital funding would help reduce the risks to life and property due to dam failures by providing states with resources to improve their dam safety programs. It is an investment in public safety that will reduce loss of life, property damage and much larger federal expenditures which come out of the National Flood Insurance Program and the President's Disaster Relief Fund as a result of dam failures.

SAFETY AND REGULATION

Regulation is essential for the reduction of the hazards involved with dams. That responsibility rests almost entirely with the states. More than 95 percent of the dams in the U.S. are privately owned and regulated by state dam safety agencies. While the majority of states have been working to improve their programs in the last 20 years, most are still struggling with minimal budgets and staff. A handful of states do not even have adequate programs in place to regulate the safety of their dams. The 1995–96 National Inventory of Dams revealed that a majority of high or significant hazard dams do not have Emergency Action Plans in place which would mean the difference between timely downstream evacuation and disaster.

Safety is essential to all regulated dams, but most importantly to the 9,281 dams determined by regulators to be high-hazard (category I), meaning that their failure will likely cause loss of life and significant property damage. Even more significant are the approximately 1,800 dams which are considered to be unsafe. Many of these are also in high-hazard locations. This means they have deficiencies which leave them more susceptible to failure. Thirty-five percent of the high-hazard dams have a last inspection date prior to 1990. A recent survey conducted by ASDSO showed thousands of other dams are in need of rehabilitation to keep them from becoming unsafe.

Every member of this subcommittee has high-hazard dams impounding water within their state. Nearly every member of the subcommittee has at least one unsafe, high-hazard dam operating in their home state. North Carolina, Pennsylvania, and Texas have over 500 high hazard dams each in their states. North Carolina has the most high hazard dams for a total of 874.

Other states with "high hazard" and "unsafe" dams include:

High hazard	*Unsafe*
502 in Ohio	450
394 in California	.....
372 in New York	57
366 in Georgia	57
292 in Colorado	189
248 in West Virginia	49
238 in Mississippi	10
184 in Alabama	150
183 in New Jersey	32

A complete chart of states' dam inventory data is included at the end of this written testimony.

COST OF DAM FAILURES

I would like to give you a brief overview of the extent of dam hazards. Millions of Americans rely on dams for water supply, power generation, flood control, irrigation and recreation. High safety standards for these dams can keep them from failing. But high dam safety standards have not been the norm in the United States until the past 20 years, and these standards have only been put in place in response to several devastating failures.

It has been said that few man-made structures have the potential for causing catastrophic devastation as dams do should they fail. When we think of devastating dam failures and flooding, the highly-publicized and significant events of the past come to mind such as the South Fork Dam failure of 1889 which killed 2,209 people in Johnstown, Pennsylvania. This infamous disaster has always been attributed to the lack of dam safety technology and awareness.

In general, the costs of dam failures are overlooked. Several other factors need to be considered when calculating the total costs including fatalities and injuries, property damage, emergency operations and clean up costs, loss of dam infrastructure and the revenue it generates, and environmental and economic impacts on nearby communities.

Dam failures affect thousands of lives and cost millions of dollars. The 1976 failure of the Teton Dam resulted in damages of $900 million and 11 fatalities. The failure in July 1982 of the Lawn Lake Dam, a small earth embankment, produced $35 million in damages and three fatalities. More recently, the failure in 1996 of a small dam in New Hampshire resulted in one death and $5.5 million in damages.

In 1997, the Ohio Cecil Hollow Dam failed and caused high velocity flood waters to completely surround and devastate homes. Items including family cars and household possessions were washed downstream. The heavy rainfall and runoff overwhelmed the capacity of the dam and caused it to overtop and breach, releasing the flood waters into the steep and narrow valley below.

A dam at Camp Inawediwin owned by the Girl Scouts in Tabernacle Township, New Jersey had a downstream slope failure which resulted in a 12-year old boy being critically injured. The boy was playing in the area of the dam and was buried in the earth failure. In the past two years, there have been 59 failures and 56 emergency incidents in about 30 states. Information on these and other dam failures is collected by the National Performance of Dams Program which is located at Stanford University.

CAUSE OF DAM FAILURES

Approximately two-thirds of all dam failures are caused by floods. The second leading cause of dam failure is excessive leakage and internal erosion, which accounts for 19 percent of all failures. Additional causes include animal burrows, concrete deterioration, deterioration and failure of structures and equipment items required to provide outlet capability during flood emergencies, earthquakes, embankment instability, foundation problems, ice pressure, settlement, and structural failure.

CONCLUSION

Dams are a critical part of our national infrastructure. They provide benefits upon which our communities and industries depend. However, along with the benefits is the need to maintain safe, reliable structures.

The total economic and social damage of one dam failure, not to mention the incalculable loss of life, easily exceeds the cost of the dam safety program. In one incident alone, the cost of the damage from the dam failure was $5.5 million which is nearly twice the cost of the program.

Full funding of the National Dam Safety Program would provide the needed tools to help state dam safety programs and would encourage states to advance their safety programs, thereby enabling them to prepare for disasters before they strike.

In closing, we strongly urge this subcommittee to recognize the benefits of this modest investment in public safety by providing additional funding of $2.4 million in order for FEMA to implement the National Dam Safety Program.

ASDSO looks forward to working with the subcommittee and its staff on this critical public safety issue.

1998 STATE DAM INVENTORY DATA

State	Total national inventory [1]	Total State regulated [2]	State high-hazard [3]	State reg. unsafe [4]	Government ownership [5]
Alabama	1,570	1,704	184	150	25
Alaska	99	87	18	.....	55
Arizona	315	214	73	23	173
Arkansas	927	427	98	25	363
California	523	1,232	394	.....	536
Colorado	1,648	1,808	292	189	428
Connecticut	707	3,230	236	NR	251
Delaware	73	98	9	NR	75
Florida	572	NR	NR	NR	15
Georgia	4,853	3,311	366	57	634
Hawaii	129	129	56	.....	29
Idaho	343	431	100	13	80
Illinois	1,226	1,226	156	NR	387
Indiana	1,001	1,506	245	NR	316
Iowa	2,465	2,514	66	2	1,437
Kansas	6,077	9,899	200	51	1,363
Kentucky	955	924	147	.....	NR
Louisiana	381	311	12	.....	90
Maine	617	694	23	59	57
Maryland	273	361	56	6	162
Massachusetts	1,528	2,921	333	21	685
Michigan	909	1,191	83	NR	378
Minnesota	932	852	40	NR	532
Mississippi	3,191	3,328	238	10	121
Missouri	4,032	614	195	20	206
Montana	3,517	3,219	153	13	795
Nebraska	2,029	2,029	92	.....	1,027
Nevada	323	577	106	8	74
New Hampshire	613	3,106	87	.....	364
New Jersey	806	1,580	183	32	350
New Mexico	501	522	160	3	152
New York	1,633	5,645	372	57	676
North Carolina	2,699	4,646	874	40	199
North Dakota	770	1,308	26	5	191
Ohio	1,766	2,703	502	450	505
Oklahoma	4,510	4,380	145	5	150
Oregon	833	3,733	122	.....	186
Pennsylvania	1,315	2,886	735	7	501
Puerto Rico	36	36	33	.....	31
Rhode Island	185	506	17	.....	80
South Carolina	2,252	2,242	149	3	283
South Dakota	2,392	2,252	48	4	140
Tennessee	1,044	593	136	28	382
Texas	6,838	7,247	818	403	2,734
Utah	654	1,948	214	41	198
Vermont	343	1,001	51	NR	141
Virginia	1,581	482	103	50	360
Washington	653	865	94	13	238
West Virginia	537	354	248	49	233
Wisconsin	1,291	1,080	192	NR	618
Wyoming	1,216	1,332	64	3	221
Total	74,467	93,952	9,280	1,837	19,006

[1] Includes federal and non-federal dams over 25 ft. in height or 50 acre-feet in volume; or anything above 6 ft. in height with downstream damage potential should it fail.

[2] Includes all dams under state regulatory control.
[3] High-Hazard by state definition derived from state inventory in column 2.
[4] Dams with identified deficiencies by state definition (varies state to state) derived from state inventory in column 2.
[5] Derived from national inventory in column 1.

Note: Inventory sizes vary from state-to-state because of number of dams, but also because state laws vary on which dams are included under their jurisdiction.
NR—Not Reporting. Some states do not keep data on ''high-hazard'' and/or ''unsafe'' categories.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

PREPARED STATEMENT OF MAYOR BRUCE DELANEY, CITY OF GAINESVILLE, FL

Mr. Chairman: On behalf of the City of Gainesville, Florida, I appreciate the opportunity to present this written testimony to you today. The City of Gainesville is seeking $900,000 in federal funds in the fiscal year 1999 VA/HUD Appropriations bill for a business incubator project to promote economic development in East Gainesville and to move people off of welfare into the workforce. Key components of the Gainesville Enterprise Assistance Center are:

—Real Estate Acquisition.—The City of Gainesville expects to receive the donation of a 75,000 square foot office warehouse facility with a market value of about $1.2 million.

—The City requires $900,000 to renovate the facility as a business incubator.

The City of Gainesville's Economic Development Department is working in collaboration with the University of Florida, the North Florida Technology Innovation Corporation, Santa Fe Community College, the Small Business Development Center, the Gainesville Area Chamber of Commerce, the Council for Economic Outreach, the Southern Technology Application Center and other local organizations on this project. Together, these organizations possess the staff and expertise to provide services and administer, implement and market the project. If the property and funding are obtained, project implementation will begin on or before October 1, 1998. Gainesville needs to create greater opportunities to support small business startups that can fuel job creation and expand the tax base in our local area.

—It has been documented that the majority of new jobs in America are generated by small companies.

—A survey has been done of local start up companies which indicates that 60 percent of the respondents would have used and benefited from a business incubator had one been available.

—Gainesville is a community rich in intellectual capital due to the diversity of colleges and programs at the University of Florida. Research at UF has resulted in an abundance of technology that can be licensed by private entrepreneurs. In addition, new business startups unrelated to the university are emerging continuously in the north central Florida region.

—Much of UF's available technology leaves the community and is developed in cities where programs exist to help new business owners succeed. Many of the non-UF business ventures that start in the area fail due to a lack of business assistance.

There will be direct and indirect economic development impacts from this project.

—The incubator will be located in the City of Gainesville Enterprise Zone. The area's residents live in some of the census tracts with the City's highest unemployment and poverty rates. According to the 1990 Census, census tract four where the project is located has a 20.4 percent poverty rate and a 10 percent unemployment rate. Surrounding tracts (five, six and seven) range from 36.6 percent to 46.82 percent poverty rate and 4.1 percent to 15.8 percent unemployment rate. The building targeted for use as the incubator is a former hardware and lumber store which once employed 100 workers but closed two years ago and is still vacant.

—One of the main goals of the City is the creation of jobs for the unemployed and the welfare recipients that will be forced off welfare as part of the President's welfare reform initiative.

—The proposed incubator will function to help grow companies that can create needed jobs in the enterprise zone, add to the city's tax revenue stream, and help diversify the employment base. The incubator will provide valuable business development services to client companies so as to maximize their chance for survival. In addition, the City, in collaboration with other organizations, will seek to identify entrepreneurs and small business start-ups within the target area to create more business and employment opportunities for residents.

—A recent study published in August 1997 entitled ''Business Incubation Works'', funded by a grant from the U.S. Economic Development Administration, gave

the following findings on the impacts of business incubators: (1) In 1996 incubator firms created 468 direct and 702 total jobs, (2) Estimated public subsidy: $1,109 per job, (3) 97 percent of graduating firms are still in business, (4) 84 percent of graduating firms stay in their community, (5) Incubation programs contribute to their client companies' success, and (6) EDA funded incubators performed better than or equal to non-EDA funded incubators.

In closing, Federal support is critical for the success of the Gainesville Enterprise Assistance Center and it is our hope that the Subcommittee will give our request every consideration throughout the fiscal year 1999 appropriations process.

PREPARED STATEMENT OF THE UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY (UMDNJ)

We respectfully present testimony of the University of Medicine and Dentistry of New Jersey (UMDNJ), the largest public health sciences university in the nation. The UMDNJ statewide system is located on five academic campuses and consists of 3 medical schools and schools of dentistry, nursing, health related professions and biomedical sciences. It also comprises a University-owned acute care hospital designated as the State's Level One Trauma Center, three core teaching hospitals, an integrated behavioral health care delivery system, a University-owned managed care network, and affiliations with more than 100 health care and educational institutions statewide. No other institution in the nation possesses resources which match our scope in higher education, health care delivery, research and community service initiatives with state, federal and local entities.

We appreciate this opportunity to bring to your attention three of the University's priority projects, which we believe are consistent with the mission of this committee:

The first is an initiative to establish an International Center for Public Health in Newark; the second is the development of the Dean and Betty Gallo Prostate Cancer Center in New Brunswick; and the third is the creation of a Child Health Institute of New Jersey, also located in New Brunswick, New Jersey.

Following is an outline of each of these initiatives for your consideration.

UNIVERSITY HEIGHTS SCIENCE PARK AND THE CREATION OF THE INTERNATIONAL CENTER FOR PUBLIC HEALTH

The International Center for Public Health is a strategic development initiative that will create a world class, infectious disease research and treatment complex in University Heights Science Park, Newark, New Jersey. Science Park is located in a Federal Enterprise Community neighborhood. The International Center will have substantial local, regional, national and international impacts as it addresses many critical social, economic, political and health related issues. The International Center is a $78 million anchor project that launches the second phase of a fifty-acre, $350 million mixed-use urban redevelopment initiative, University Heights Science Park. The facility will total 161,000 square feet and house three tenants: the Public Health Research Institute (PHRI), the University of Medicine and Dentistry of New Jersey's (UMDNJ) National Tuberculosis Center, one of three Federally funded TB centers, and the UMDNJ-New Jersey Medical School Department of Microbiology & Molecular Genetics. The International Center for Public Health is a priority project for UMDNJ, Rutgers University, the New Jersey Institute of Technology, Essex County College and the City of Newark.

The core private tenant for the International Center is PHRI. PHRI is an internationally prestigious, 57-year-old biomedical research institute that conducts a broad range of infectious disease and public health research. A major PHRI research focus is the study of antibiotic resistance to life threatening bacterial organisms, and the development of new antibiotics.

Among its many accomplishments over the years, PHRI has contributed to the development of smallpox vaccine, developed a new diagnostic assay for influenza, conducted early experiments on oncogenes, cloned the gene responsible for toxic shock syndrome, and identified the multi-drug resistant TB strain "W". PHRI's current research centers on molecular pathogenicity, drug discovery, drug resistance, diagnostic and vaccine development, and gene expression. Scientific disciplines include virology, immunology, biochemistry, genetics, cell and structural biology, and regulation of cell development. Presently, PHRI supports a staff of 110, including 20 Principal Investigators. These numbers will double in the move to the International Center.

UMDNJ will be the primary medical center linkage and academic affiliation for the Public Health Research Institute. The New Jersey Medical School National Tuberculosis Center at UMDNJ, one of only three model Tuberculosis Prevention and

Control Centers in the United States funded by the Centers for Disease Control (CDC), will add an important clinical component to the International Center, since many TB patients also manifest other infectious diseases. The TB Center was founded in 1993 as a response to the national resurgence of antibiotic resistant tuberculosis strains. At the time, Newark had the nation's second highest rate of TB cases for a major city.

Rounding out the International Center's initial tenants will be the UMDNJ-New Jersey Medical School's Department of Microbiology & Molecular Genetics. The Department's relocation will add a staff of 100 to the Center's critical mass of microbiology research. Currently the seventeen-member faculty conducts research in control of cell proliferation; cellular aging; transcriptional, post-transcriptional, and transcriptional regulation; mutagenis; DNA replication and recombination; chromosome structure and segregation; human molecular genetics; and molecular pathogenesis of viruses, bacteria and parasites.

The fusion of PHRI, the National TB Center and the Department of Microbiology & Molecular Genetics will create a world class research and treatment complex having substantial local, regional, national and international impacts.

Other collaborators in the development of the International Center include the New Jersey Department of Health & Senior Services (NJDHSS) and the pharmaceutical industry. Responsible for overseeing all statewide public health initiatives, NJDHSS will contract with the International Center to have cutting edge molecular epidemiology services provided to the State of New Jersey. Expanding the strategic use of molecular epidemiology to direct public health activities will facilitate prompt identification and containment of emerging and re-emerging pathogens. New Jersey's major biomedical companies will also participate in the International Center. An infectious disease consortium will be developed to serve as a forum for disseminating fundamental research on the underlying molecular processes of infectious disease organisms. This research will contribute to pharmaceutical industry development of new drug therapies for antibiotic resistant microorganisms. Private industry R&D facilities contiguous to the International Center are also being explored.

THE ANCHOR PROJECT FOR UNIVERSITY HEIGHTS SCIENCE PARK

University Heights Science Park (UHSP) is a collaborative venture of Newark's four higher education institutions, the City and Community of Newark and private industry, designed to harness university science and technology research as a force for urban and regional economic and community development. The university sponsors, the New Jersey Institute of Technology (NJIT), the University of Medicine & Dentistry of New Jersey (UMDNJ) and Rutgers University at Newark, annually conduct nearly $100 million of research in Newark, much of it federally funded. Essex County College trains technicians in eleven science and technology fields and prepares Newark residents for employment with Science Park technology companies. The private industry Park sponsors include the following Newark-based companies: Public Service Electric & Gas, The Prudential Insurance Company, First Union National Bank and Bell Atlantic of New Jersey.

UHSP is designed as a 50-acre, mixed-use, science and technology park in Newark's Central Ward, adjacent to the Park's four higher education sponsors. It is located in a Federal Enterprise Community neighborhood. At buildout UHSP will include one (1) million square feet of technology commercial space, 75,000 square feet of technology incubator space, up to 20,000 square feet of retail support business opportunities, an 800 student technology high school, two blocks of new and rehabilitated housing and a community day care center. The $10 Million Science Park has been completed, and includes the NJIT Enterprise Development Center 2 (a technology business incubator), a 100 child day care center and the CHEN Building (housing the industrial liaison laboratories for the Center for Biomaterials and Medical Devices). CHEN is the acronym for the Council for Higher Education in Newark, the coalition of the four institutions of higher education who founded University Heights Science Park. For almost two decades CHEN has jointly sponsored educational, housing, and retail/commercial projects in Newark's public schools and the neighborhoods of University Heights. The NJIT technology incubator building was completed in Fall 1996 and is 100 percent leased. Nearly half of the 17 incubator tenants are MBE/WBE companies. In addition, over half of the children in the Science Park day care center are from the surrounding community, and the majority of day care center staff are from Newark. The construction of the International Center will anchor the second phase of Science Park, and serve as a magnet to attract pharmaceutical, diagnostic and other biomedical companies to Science Park. The Center will have the same impact on the Park as an anchor store does in a retail shopping mall.

HOW THE INTERNATIONAL CENTER FOR PUBLIC HEALTH ADDRESSES VA-HUD OBJECTIVES

Department of Veterans Affairs (VA).—VA sponsored research includes investigation of drug-resistant HIV, aspects of Gulf War Syndrome, and Sigma Factors in M.Tb. The International Center will contribute to the achievement of these objectives in the following way:

PHRI is presently in discussions with the VA to explore the epidemiology of tuberculosis in the VA system. No studies have yet been performed to look at tuberculosis transmission on a national level with molecular epidemiological techniques. Studies of tuberculosis transmission have a particular value for the VA system, whose collection represents the only geographically representative source of TB strains in the nation. The project will type strains submitted and alert VA medical centers to the presence of related strains, thus providing warning of nosocomial or other local outbreaks.

PHRI and the UMDNJ-New Jersey Medical School are currently working with an associated VA hospital in a pilot program to identify the extent of methicillin resistant staph infections, and to develop strategies to eliminate these from the hospital. If successful, this program will provide a model for implementation at other VA hospitals and additional hospitals outside the VA system.

The Department of Housing and Urban Development (HUD).—A major HUD objective is to effectively implement welfare reform as required by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. In addition, HUD is seeking to expand the economic and community development roles of universities to assist in the revitalization of distressed urban neighborhoods. The International Center will contribute to the achievement of these objectives in the following ways:

—Newark is a federally designated Enterprise Community (EC), and as such is already part of a Federal strategy to attract and support economic development activity that will create jobs in the urban core. The 50-acre Science Park is located within the boundaries of one of the EC neighborhoods. The development of the $78 million International Center for Public Health will generate 1,500 direct and indirect construction and permanent jobs. The permanent jobs include custodial and clerical positions, lab technicians, medical personnel, researchers and administrators. Science Park will work directly with the Essex County College (one of its sponsoring educational institutions) and their Technology Training Project (TTP) to train Newark residents as lab technicians for the International Center. TTP is privately sponsored by New Jersey's biomedical industry and has been in existence for nearly 30 years. TTP trains 50 technicians annually, all of whom are high school graduates or adults looking for a new career.

It is one challenge to acquire necessary job skills, but it is another for urban residents to have the means to travel to where the jobs are. In the last 20 years Newark has lost 35,000 private sector jobs, a number of which have moved to New Jersey's western suburbs. This project redevelops urban land, preserves open green space, and utilizes existing public transportation to the doorstep of the Park. The development of Science Park is Newark's chance to reverse that job exodus by utilizing existing university resources and providing City residents with access to the technology jobs of the 21st century. The International Center for Public Health serves as the cornerstone to launch the 50-acre urban redevelopment initiative. At buildout the Science Park will have generated $350M of construction, 5,000 direct and indirect construction jobs, and 6,600 direct and indirect permanent jobs with an annual payroll of $275M. The International Center will serve as a magnet to attract other biomedical and pharmaceutical research and development companies into the Park. The development costs for the International Center include the site preparation of three additional adjacent building pads. These sites will be simultaneously marketed to private biomedical companies, and will generate $60M of additional construction, and another 1,500 direct and indirect construction and permanent jobs.

—The development of the International Center for Public Health in University Heights Science Park accomplishes the objective of HUD's Office of University Partnerships: the university expansion of economic and community development roles to revitalize distressed neighborhoods. Science Park is sponsored by four institutions of higher education.

REQUEST FOR ASSISTANCE

The University Heights Science Park Is requesting $5 Million from the Senate Appropriations Subcommittee for VA–HUD & Independent Agencies for Fiscal Year 1999 to support the Phase II development of Science Park: the construction of the

International Center for Public Health. Such support will leverage Phase II development that totals $130 Million and creates nearly 3,000 direct and indirect construction and permanent technology jobs. These requested funds will be used specifically for site acquisition, demolition and infrastructure in a Federal Enterprise Community neighborhood in Newark, New Jersey.

On behalf of University Heights Science Park, the University of Medicine and Dentistry of New Jersey and the Public Health Research Institute, we want to thank the Committee for the opportunity to present this request.

DEAN AND BETTY GALLO PROSTATE CANCER CENTER

Objective

Prostate cancer is a particularly devastating problem in New Jersey. With the highest population density in the country, at 1,000 people per square mile, we are ranked 10th of all the states in mortality prostate cancer. African Americans diagnosed with prostate cancer are twice as likely to die from it, and New Jersey is ranked 8th in the nation for this disease in this ethnic group. There is no available curable treatment for prostate cancer once it recurs, and when it does, it is uniformly fatal. The objectives of the Dean and Betty Gallo Prostate Cancer Center are:

—Regionally, to provide the highest standard of care, including NCI-approved trial therapies, to all residents of the area who suffer from prostate cancer. In addition, we will provide outreach and education in the community to generate early detection of the disease.

—Nationally, to make significant contributions to the nation's war on this disease through basic science discoveries on how prostate cells become malignant, ways to prevent transformation to cancer, how prostate cancer cells evade therapies, and the development of novel treatments for advanced stages of the disease.

Background

The Cancer Institute of New Jersey (CINJ) is the only NCI-designated Clinical Cancer Center in the state. It is affiliated with the University of Medicine and Dentistry of New Jersey (UMDNJ), and is located at that institution's Robert Wood Johnson Medical School in New Brunswick, New Jersey. CINJ has over 200 members including 35 staff physicians, physician/scientists, and basic science researchers. Because of the devastating problem of prostate cancer in the state and in the nation, CINJ has determined to make the development of a cure for this disease one of its major goals. To accomplish this we have initiated the development of the Dean and Betty Gallo Prostate Cancer Center.

The center is named after Congressman Dean Gallo, who was a tireless supporter of the people of New Jersey. He believed in making our state stronger by collaborating with his colleagues to secure federal funding for initiatives that improve the quality of life for all citizens. One such initiative was the creation of the CINJ. Tragically, he died of prostate cancer in 1994 after being diagnosed in an advanced stage of the disease. Our efforts to cure prostate cancer are motivated in large part by our memory of his excellent service.

CINJ is physically located in New Brunswick but has statewide presence through its hospital partners and affiliates. CINJ has grown rapidly through the cooperative efforts of these partners and affiliates, generous grant support from the Robert Wood Johnson Foundation, Johnson & Johnson, as well as many other New Jersey based foundations and corporations.

CINJ IS UNIQUELY POISED TO FULFILL THE TWO OBJECTIVES OF THE DEAN AND BETTY GALLO PROSTATE CANCER CENTER

Treatment.—The Cancer Institute of New Jersey is the center of excellence for cancer treatment in the state of New Jersey. It currently sees approximately 6,000 prostate cancer patient visits per year in all stages of the disease, and this number is increasing by about 8 percent per month. Prostate cancer patients who are diagnosed early in the progression of their disease have different treatment options than those who are diagnosed with metastatic disease, and are therefore treated by physicians with different specialties. At many cancer centers, these patients are seen at different places and even at different hospitals. At the Cancer Institute of New Jersey we have developed an integrated approach, where all prostate cancer patients are seen in the same clinical setting, and where all physicians who are experts in prostate cancer review the cases together. Thus, each patient is followed regardless of the stage of their disease by various specialists, and each patient has the benefit of medical and surgical experts continuously reviewing their progress. The central location of CINJ and its network of affiliated hospitals make CINJ care accessible to virtually all New Jersey residents. In addition to treatment, CINJ of-

fers patient support groups to assist patients and their families to cope with this dreaded disease.

The team of physicians, researchers, and directors at CINJ have long recognized the particular problem faced by Congressman Dean Gallo. There is no curable treatment currently available for prostate cancer when it recurs or when it is metastatic. We have, therefore, concentrated our efforts on developing new ways to treat this devastating disease. Virtually all of our patients for whom we recognize there is currently no cure are enrolled into clinical trials with the hope of possible success if they consent to enrollment. The CINJ currently has five different clinical trials for advanced prostate cancer. In addition, we are establishing an integrated working group of nationally recognized leaders in basic science at The Cancer Institute of New Jersey whose work can be applied to prostate cancer. Through a series of focus groups, we are bringing together the basic scientists and physician/researchers to educate each other, to work in collaboration, and to develop new treatments.

To address the specific portion of our objective to make treatment available to all area residents, the Dean and Betty Gallo Prostate Cancer Center will be incorporated into the statewide network of affiliated hospitals and providers. This network allows CINJ to facilitate treatments and research for prostate cancer. Patients with advanced, incurable, prostate cancer may therefore be enrolled into clinical trials at several locations throughout the state. This not only allows us to treat more patients with novel therapies but also increases our ability to rapidly evaluate these therapies. CINJ is also working with local clinics and agencies to develop treatment plans for uninsured sufferers of prostate cancer.

Research.—A requirement for the designation of "Clinical Cancer Center" by the NCI is that the center establish a strong research component that integrates the best available medical treatment of cancer with nationally recognized basic researchers to find new cures. The CINJ is the only center in New Jersey that has fulfilled this requirement. CINJ is located in the heart of biomedical science and technology in New Jersey, enjoying the affiliation with several nationally recognized centers of research excellence. CINJ is physically located on the New Brunswick campus of UMDNJ-Robert Wood Johnson Medical School (RWJMS). The medical school's nearby Piscataway campus is adjacent to Rutgers University, another globally recognized center of research. Two other nationally acclaimed research centers are administered jointly by UMDNJ and Rutgers University and will play critical roles in addressing this dreaded disease. The Center for Advanced Biotechnology and Medicine (CABM) has leaders in molecular biology, including several Howard Hughes investigators. The Environmental and Occupation Health Sciences Institute (EOHSI) includes a National Institute of Environmental Health Sciences (NIEHS) center of excellence for the study of environmental toxicology.

CINJ has successfully recruited investigators from the CABM and EOHSI specifically to study prostate cancer. Dr. Cory Abate at the CABM/RWJMS has isolated a novel gene that is likely to be involved in the development of prostate cancer. Dr. George Rhodes at the EOHSI/RWJMS has initiated a prospective epidemiological study to determine the efficacy of PSA screening in African Americans. Drs. Chung S. Yang and Robert E. Weiss at Rutgers University and RWJMS, respectively, have initiated a study to determine whether compounds known to prevent the development of other tumors are also preventive against prostate cancer. Drs. Robert DiPaola and William N. Hait at CINJ have initiated clinical trials for prostate cancer based on laboratory experiments performed in collaboration with Dr. Eileen White at CABM/Rutgers University. These experiments address how cancer cells develop resistance and ways to make the cells sensitive to therapy.

Action Needed

With the establishment of the Dean and Betty Gallo Prostate Cancer Center, collaborative research like the projects just described will be tremendously expanded. The Center will allow us to focus the strengths of the CINJ on the devastating problem of prostate cancer in New Jersey, its surrounding region, and in the nation through treatment and research. Such a Center is imperative to provide the resources to effectively recruit additional nationally recognized leaders in research into the study of prostate cancer. In order to bring together scientists of this caliber, all focused on prostate cancer, it is imperative to have a strong focused center.

Since there is currently no effective curable treatment for prostate cancer once it progresses beyond the prostate, a concerted effort must be made to develop new treatments. This effort requires two approaches. The first is a comprehensive study of the biological characteristics of the disease at the basic science level. CINJ is committed to joining national efforts on this front. We have obtained the technology, for example, to examine the expression patterns of over 10,000 genes from a single tumor sample, using multigene arrays. This will greatly facilitate collaborations be-

tween the basic scientists at the various New Jersey academic institutions with the clinical scientists at CINJ.

CINJ is uniquely suited to scientifically examine the difference in mortality between African Americans and white Americans with the disease, which is a major question in prostate cancer. New Jersey has a large population of African Americans at all levels of income. We can thus investigate how much of the disparity between the mortality of both groups is due to genetic predisposition versus economic status or other undetermined factors. Scientists at CINJ are more than capable of answering this question, particularly with the additional infrastructure support which will be available once the resources for the Gallo Prostate Center are acquired.

To establish the Dean and Betty Gallo Prostate Cancer Center, a Director must be recruited. Although the exact description of the qualifications of this individual will be defined by the board, we envision that he/she will be a medical oncologist who has a strong research program in prostate cancer. He or she must have a national reputation. The Director must also be given the resources to hire two additional researchers to firmly establish a productive research group. The Dean and Betty Gallo Prostate Cancer Center will also need support staff to facilitate treatment and research coordination.

The Request

The proposed budget for the Dean and Betty Gallo Prostate Cancer Center is $9.4 million to be spent over a 5 year period. We expect to raise substantial funds through private, corporate, and other resources. We therefore seek an allocation of $5 million to facilitate the establishment of this important resource. These funds will not be used for bricks and mortar, but to secure the resources necessary to conquer this disease.

We are requesting this allocation from the Veterans Administration (VA) and the Department of Housing and Urban Development (HUD) jointly because prostate cancer is of particular interest to both organizations for different reasons. A large percentage of the patients who are treated by the VA are older, African American males, and this is the population with the highest incidence of mortality due to prostate cancer in the nation. The Dean and Betty Gallo Prostate Cancer Center will focus its research and treatment on this population in the New Jersey tri-state area. HUD is concerned largely with issues that deal with urbanization and the differences between urban, suburban and rural communities. New Jersey is the most populated state in the nation, with its population divided among all three types of communities. Moreover, New Jersey has a particularly difficult pollution problem, and the impact of environmental toxins on the development of prostate cancer will be a focus of research efforts. We will also seek to understand how much of an impact economic status plays in the mortality of prostate cancer among African Americans. Finally, the major research goal will be to cure this disease even once it has spread beyond the prostate.

We wish to thank the Members of this Subcommittee for your long-term leadership in supporting nationally and internationally critically-needed research and development initiatives. This Subcommittee is to be commended for its staunch support of the universities and research institutions of this country. Your particular role in the support of many biomedical research initiatives must be especially recognized.

CHILD HEALTH INSTITUTE OF NEW JERSEY

The Problem

Disorders of health affecting infants and children exact a terrible toll, in both human suffering and economic impact, on the child, family and the community. Consequently, State and Federal public policy prioritizes efforts to prevent or treat disorders of infancy and childhood. The prevention of conditions such as mental retardation, muscular dystrophy, sickle cell disease or cystic fibrosis has nearly incalculable benefits to society. Neither New Jersey nor New York hosts a research center designed and developed specifically to address issues of child health.

The University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School (UMDNJ–RWJMS) proposes to develop the Child Health Institute of New Jersey (CHINJ), a comprehensive biomedical research center focused on the health and wellness of children. In this program, medical researchers will direct efforts towards the prevention and cure of environmental, genetic and cellular diseases of infants and children.

Overview

The Institute will be located in New Brunswick and linked physically and programmatically with both UMDNJ–RWJMS and the Children's Hospital at Robert

Wood Johnson University Hospital (RWJUH). This organization reinforces the relationship between essential biomolecular research and the treatment, prevention and cure of disorders of infancy and childhood. Locating the Child Health Institute in New Brunswick promotes the development of new partnerships among the Institute, the Medical School, the teaching hospitals affiliated with UMDNJ–RWJMS, and with the multinational pharmaceutical, biotechnology and chemical interests throughout New Jersey.

The CHINJ will act as a magnet for additional growth in research and healthcare program development in New Brunswick and New Jersey. New Brunswick provides a central location in the state that offers ease of access and proximity to major highway systems and mass transit; this is essential, as no similar program exists in either New York or New Jersey. The state of New Jersey, which has significant concerns in the areas of infant mortality, neonatal HIV infection and pediatric cancer, will benefit directly and enormously from the unique presence and impact of the Child Health Institute of New Jersey.

Program

The Institute will encompass some 83,000 gross square feet and will house more than 40 research laboratories and associated support facilities. Fourteen senior faculty will direct teams of M.D. and Ph.D. researchers, visiting scientists, postdoctoral fellows, graduate students and technicians for a full complement of some 130 employees.

The Institute will focus research on the molecular and genetic mechanisms which direct growth, wellness, and disease. Examples of the Institute's research foci include: the identification and functional analysis of genes contributing to developmental disabilities and abnormal development; developmental pharmacology relating growth and maturation to the processes that regulate drug metabolism, developmental toxicity, and resistance or susceptibility to toxic agents; genetic and environmental influences on developmental immunology; the molecular mechanisms underlying brain growth and development; and tissue degeneration and regeneration.

The Child Health Institute of New Jersey builds on existing significant strengths in genetic, environmental, and neurosciences research within the UMDNJ-Robert Wood Johnson Medical School and associated joint UMDNJ-Robert Wood Johnson Medical School-Rutgers University research institutes. For example, the Environmental and Occupational Health Sciences Institute (EOHSI) is a National Institute of Environmental Health Sciences (NIEHS) recognized center of excellence which investigates environmental influences on normal and disordered functions; The Cancer Institute of New Jersey (CINJ), a National Cancer Institute-designated Clinical Cancer Center, studies disordered cell growth; The Center for Advanced Biotechnology and Medicine (CABM) characterizes gene structure and function.

The proposed Child Health Institute of New Jersey, which is formally chartered with defining developmental mechanisms, will complement and focus developmental programs within these Institutes and other areas of the University of Medicine and Dentistry of New Jersey.

Economic Impact

At maturity, the Institute is expected to attract $7 to $9 million of new research funding annually. The Institute's total annual operating budget is projected to be $10 to $12 million: applying a standard economic multiplier of 5, the total impact on the New Brunswick area is estimated to be $50 to $60 million per year. Construction costs for the Institute are estimated to be approximately $27 million; approximately half of this figure is generally associated with local employment. Therefore, during the 2½-year period of construction, the Institute will have an immediate economic impact of at least $52 million on the local economy.

Partners

This effort is driven by several major partners who are committed to the development of the CHINJ. The University of Medicine and Dentistry of New Jersey is the largest public health sciences university in the nation and the only one designated as a statewide system for health care. UMDNJ comprises seven schools on five academic campuses, including the Robert Wood Johnson Medical School with campuses in New Brunswick, Piscataway and Camden.

The UMDNJ–RWJMS is one of the most dynamic schools of medicine in the country, hosting centers of excellence in environmental health, biotechnology and medicine (both joint programs with Rutgers University) and more recently, cancer treatment and prevention. Research funding has grown nearly 30 percent in the past four years, to over $70 million in 1997.

Johnson and Johnson is the world's largest and most comprehensive manufacturer of healthcare products serving consumer, pharmaceutical, and professional markets.

The Robert Wood Johnson Foundation is one of the largest philanthropic foundations in the world, targeting issues of public health and wellness, particularly as directed at maternal and child health concerns.

The Robert Wood Johnson University Hospital is one of New Jersey's premier academic medical centers and the core teaching hospital of Robert Wood Johnson Medical School. It includes the region's only Pediatric Intensive Care Unit and Level 1 Trauma Center and has earned state designation as a Specialty Acute Care Children's Hospital. A $42 million program is presently under way to consolidate all pediatric services in a new, state-of-the-art facility designed expressly for children and families.

As part of an initial planning grant, Johnson and Johnson and the Robert Wood Johnson Foundation have already provided $850,000 to the operational costs of the Institute. The UMDNJ-Robert Wood Johnson Medical School will provide an additional $350,000 per year in direct funding for the Institute. Robert Wood Johnson University Hospital will provide support, real estate for the Institute and will construct a bridge from the new Children's Hospital to the Institute.

Request for Assistance

The University of Medicine and Dentistry of New Jersey seeks a $5 Million planning and capital grant for the Child Health Institute of New Jersey. As indicated above, the program has already received initial funding support from Johnson & Johnson and the Robert Wood Johnson Foundation in the amount of $850,000. Efforts to obtain additional private support are underway and will be ongoing.

PREPARED STATEMENT OF RICHARD A. ANTHES, PRESIDENT, UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

On behalf of the University Corporation for Atmospheric Research (UCAR) and the university community involved in weather and climate research and related support activities, I would like to submit this letter for the record of the Senate Committee on Appropriations, Subcommittee on VA, HUD and Independent Agencies.

The University Corporation for Atmospheric Research is a not-for-profit Colorado corporation established in 1959 to support, enhance, and extend the capabilities of the university community, nationally and internationally; to understand the behavior of the atmosphere and related systems and the global environment; and to foster the transfer of knowledge and technology for the betterment of life on earth. UCAR is a consortium composed of 63 U.S. and Canadian universities that grant the Ph.D. in atmospheric, oceanic, and related sciences. It is best known for managing and operating the National Center for Atmospheric Research (NCAR), one of the premier atmospheric science research institutions in the world. NCAR's research activities focus on better understanding climate (including global climate change), the coupling of climate with other earth environmental systems, atmospheric chemistry, mesoscale meteorology, aviation weather hazards, societal impacts of weather and climate phenomena, and solar and solar-terrestrial physics. UCAR is supported primarily by the National Science Foundation (NSF) in addition to other federal agencies including National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the Department of Energy (DOE), the Environmental Protection Agency (EPA), the Department of Defense (DOD), and the Federal Aviation Administration (FAA).

The following observations are offered in regard to the President's proposed fiscal year 1999 budget.

NATIONAL SCIENCE FOUNDATION

Overall NSF Budget.—NSF is a critical source of funding for the activities of our community. We are extremely pleased with the $3.8 billion proposed for NSF (a ten percent increase) and believe that this increase acknowledges the importance of scientific research and education to the security and well-being of this country. Strengthening NSF's advancement of scientific, mathematical and engineering research and education in this country cannot help but provide the U.S. with a better trained workforce, an increasingly effective research enterprise, and a better educated general populace. If fully funded, NSF's 1999 activities will involve more than 42,000 researchers, nearly 50,000 graduate and undergraduate students, and over 124,000 K–12 students and teachers. Our country's history in research and development has demonstrated that this type of investment pays taxpayers dividends well

into the future in increased employment opportunities, expanded intellectual capital, and applied technologies that benefit society in many ways including significant contributions to our economy, protecting our environment, and maintaining peace. We urge the Committee to support the overall budget of $3.8 billion proposed for NSF in fiscal year 1999.

Research and Related Account (RRA).—Within the overall proposed NSF total, we support the proposed funding level for the RRA of $2,847 million (a 12 percent increase). The RRA increase will allow NSF to address serious issues of grant size and duration that have placed significant constraints on proposed multi-disciplinary and collaborative activities. We urge the Committee to support the budget of more than $2.8 billion proposed for the NSF RRA account.

Education and Human Resources (EHR) Directorate.—We support proposed funding levels for EHR of $683 million (an eight percent increase). This proposed increase includes training and professional development activities for 22,000 additional teachers. Given disappointing U.S. scores on recent international student tests in science and mathematics, this increased activity will be most timely and is critical to the future R&D competitiveness of our country. We urge the Committee to support the proposed budget of $683 million for the NSF EHR Directorate.

U.S. Global Change Research Program (USGCRP).—The USGCRP involves several of the NSF's Directorates and is proposed to increase by 12 percent to $187 million. This will allow the community to maintain and enhance critical research focusing in particular on climate modeling. As we deal with increasing climate change forces and the increasing societal impacts of weather and climate phenomena such as El Niño, this proposed increase is extremely timely. We have made tremendous research advances in the climate arena, but we must do more as we deal with the prospects of international climate treaties, growing coastal populations, and mounting insurance losses due to severe weather events. We urge the Committee to support the budget of $187 million for the USGCRP proposed within the NSF budget.

Geosciences Directorate.—The budget proposes $507 million for the Geoscience Directorate (11.5 percent increase). We strongly support this proposed increase which could lead to a broad range of exciting research opportunities, including the bulk of the funding mentioned above for the USGCRP and that mentioned below for the U.S. Weather Research Program. This budget also includes an increment of $1.76 million for the relatively new Knowledge and Distributed Intelligence (KDI) initiative. We believe that this program has the potential to advance linkages for multidisciplinary communities, allowing the sharing of observations, tools, and methods for analysis and prediction. We support these efforts as well as those being undertaken to create the Next Generation Internet (NGI) which could increase the productivity of the atmospheric sciences and other communities exponentially. We urge the Committee to support the proposed budget of $507 million for NSF's Geosciences Directorate.

Atmospheric Science Research and the National Center for Atmospheric Research.—The Geosciences budget also includes $102 million for Atmospheric Sciences Research Support (10.2 percent increase), including $67.8 million (11.4 percent increase) for NCAR. If realized, the NCAR increase would allow maintenance of extensive support facilities and activities for the entire atmospheric sciences university community, and increasingly sophisticated work in the areas of climate system modeling, the understanding of weather phenomena including extreme weather events, and the application of our scientific research data to new technologies such as those serving the aviation community. The proposed budget allows for "at least" $2 million for the refurbishment of the Mesa Laboratory which is absolutely necessary to maintain its function as one of the world's preeminent atmospheric sciences laboratories. This request represents the first-year increment of full refurbishment costs which we understand NSF plans to request over the next several years. We urge the Committee to support the proposed budget of $102 million for Atmospheric Research within NSF's Geosciences Directorate as well as the proposed budget of $67.8 million for the National Center for Atmospheric Research.

U.S. Weather Research Program (USWRP).—NSF is one of four agency programs that have supported the USWRP and that have plans to enhance significantly the research activities of the program in future years. The community is ready to pursue an aggressive research agenda, particularly in the area of hurricane landfall, that could save lives and millions of dollars. Study plans include improved prediction of hurricane track, wind force, improved intensity changes, precipitation amounts, and societal impacts. The information would be of obvious use to emergency managers. We urge the Committee to support the 18 percent increase for fiscal year 1999 reflected in NSF's budget: $15.79 million in the Natural Hazards category and $1.75 million in Urban Disaster Reduction.

Solar Research.—In NASA's budget, we are particularly interested in Solar B, part of NASA's Solar-Terrestrial Probe (STP) program. This is a collaboration with Japan to carry out a highly focused satellite mission to study the Sun's magnetic field as the source of space weather events around the Earth and other planets. The data gathered should help us understand events such as solar coronal mass ejections which can hit Earth's atmosphere with enough force to cause expensive and dangerous communications disruptions as well as the destruction of satellites. We urge the Committee to support the proposed $5.3 million funding for Solar B in fiscal year 1999 which we believe is appropriate at this phase of the project.

Solid Earth and Natural Hazards (SENH).—The U.S. military has invested more than $10 billion in the Global Positioning System (GPS). Twenty-four high-earth orbit GPS satellite beacons now orbit the earth. GPS provides powerful tools for atmospheric research and operational weather forecasting. These GPS applications have been demonstrated through funding from NSF and NASA. The Solid Earth and Natural Hazards (SENH) program in NASA's Office of Earth Science (under Research and Analysis account) has been a leader in funding the basic and applied research that has realized GPS applications in science.

Funding through SENH for GPS applications in science are highly leveraged because of the existing GPS infrastructure. For example, $3 million in government funding, including SENH funds, led to the demonstration of GPS/Meteorology (GPS/MET), a revolutionary new global sensing system for weather, space weather, and climate prediction and research. It appears likely that the successful demonstration will now result in an internationally-supported operational phase. However, the valuable SENH funded research that makes phenomenally successful programs such as GPS/MET possibly is grossly under-funded and many similar opportunities may be lost. Of nearly 200 proposals submitted to SENH, a majority of which are likely to spawn further highly-leveraged science applications for GPS, less than 10 percent will be funded. The President's budget requests a total of $23.2 million for SENH; we urge that this be increased to $25 million to accommodate additional highly-leveraged, peer-reviewed scientific research.

Chemistry and Climate Change Research.—The new measurement capabilities of the High Resolution Dynamics Limb Sounder (HIRDLS) instrument, scheduled for flight on the Chemistry Platform of the Earth Observing System (EOS), will add greatly to our understanding of the upper atmosphere dynamics of global climate change. HIRDLS is being jointly developed with the United Kingdom and with extensive participation by the U.S. academic community. It will return observations with unprecedented detail, notably on the transition region between the troposphere and stratosphere. These data will enable detailed studies of chemical and dynamical processes that are fundamental to improved understanding of global change.

The current HIRDLS request within the President's proposed budget is $16.4 million for instrumentation funded through the Earth Observing System's Chemistry Mission of NASA's Office of Earth Science. This is $1.6 million short of the $18 million needed for U.S. collaboration in this program. The current HIRDLS request for scientific research and computing (as distinguished from instrumentation) is $1.1 million within NASA's Research and Analysis Account. This is $1.4 million short of the $2.5 million ($2.25 million for scientific research and $250,000 for scientific computing) needed to continue development of the data reduction software, and provide scientific oversight to the instrument testing and calibration. In order to maintain our international partnership commitments, stay aligned with British project progress, and realize the extraordinary promise which this program holds, we urge the Committee to increase the fiscal year 1999 proposed total budget for HIRDLS by $3 million from the currently proposed $17.5 million total to $20.5 million.

Overall Research Funding.—It is very likely that NASA's scarce resources will be taxed during the Space Station assembly and early operations. While the importance of the Space Station is obvious, it is critical that the research budgets for earth and space sciences be preserved during this period. We urge the Committee to ensure that proper protections for NASA research funding are put in place.

On behalf of the atmospheric sciences community, I want to thank you for the important work you do for U.S. scientific research, training and education. We appreciate your attention to the recommendations of our community concerning the fiscal year 1999 budget. In particular, I want to acknowledge in advance support you may provide for proposed NSF funding levels. If passed, this fiscal year 1999 budget will send the message that the U.S. will continue to extend the frontiers of science and engineering and stay at the leading edge of research and technological development as we enter the next century and a new millennium.

PREPARED STATEMENT OF KATHYE GOROSH, PROJECT DIRECTOR, THE CORE CENTER, CHICAGO, IL

Mr. Chairman, thank you for the opportunity to present this testimony for the record on behalf of the "Enhanced Provider and Patient Education Initiative" proposed at the CORE Center in Chicago, Illinois. To address the national need for a model of "real time" education and training for HIV care providers at all levels and for patients, the CORE Center is proposing the establishment of the "Enhanced Provider and Patient Education Initiative."

This initiative will create a model technology-based system for the education of specialty and community-based providers and the education and treatment of patients. It will address an existing national need for the effective integration of educational programs to enhance provider performance and, importantly, to incorporate patients into the decision making process. It will create a system of education and care which takes advantage of the new scientific landscape and is centered around an information system. It will demonstrate the ability of computerized networks, with real time performance feedback, to improve the quality of and access to care, to increase compliance and to control cost.

As you know, the development of new and more effective drugs has allowed people to remain healthier longer and to delay the progression from HIV to AIDS. Nevertheless, it remains critical that we stop the spread of HIV as well as provide early and comprehensive care to those already infected. Effective education and compliance management programs are the only way to prevent the behaviors that lead to the spread of resistant strains of HIV. As a result, quality care will be provided in a cost-effective manner providing thousands of HIV infected individuals with an improved quality of life and enabling them to remain productive members of society.

While there have been dramatic new developments in HIV care due to new and more powerful medications, including a 13 percent decrease in the death rate from AIDS reported by the Centers for Disease Control and Prevention (CDC), these therapies have not been as effective in the indigent inner-city urban population. For example, according to the Department of Medicine at Long Island Jewish Medical Center in New Hyde Park, New York, in 1996 increased cases of AIDS related opportunistic illnesses were reported for heterosexual African American and Hispanic men and women. This disparity in opportunistic infection trends between population groups most likely reflects differences in access to the full range of new therapies now available and a lack of targeted outreach, education and compliance enforcement efforts aimed at high risk populations and at those lifestyles which contribute significantly to the transmission of HIV.

In contrast to the general decline in the number of AIDS related illnesses and deaths, the CDC has reported a continuing increase in new cases of HIV/AIDS among people of color.

In November 1997, medical experts at the United Nations reported that new infections are occurring worldwide twice as fast as just one year ago at 16,000 per day, up from 8,200 per day, with 30.6 million living with HIV throughout the world. For children under age 15, the UN estimates that 1,600 children are infected each day, up from last year's estimate of 1,000 per day. In addition, it is estimated that 1,200 children die of AIDS each year, up from the prior estimate of 1,000.

In the United States, the numbers are equally as chilling. Research is showing that the epidemic continues to shift to people of color, women and children. Since 1993, there has been a 3 percent increase annually in the national prevalence of AIDS. Recent data have shown that:

—One in 250 people in the United States is infected with HIV;
—One in four of all new HIV infections in the U.S. are estimated to occur in young people between the ages of 13 and 20;
—Every hour 2 to 4 Americans under the age of 20 become infected with HIV;
—27 to 54 adolescents are infected with HIV every day;
—2,354 adolescents ages 13–19 have been diagnosed with AIDS as of December, 1995;
—Among adolescent women with AIDS, 80 percent are African American or Hispanic; and,
—AIDS is the leading cause of death of people between the ages of 25 and 44 in African Americans and Hispanics.

In addition to the growing numbers of individuals being infected with HIV, continuing trends show that the rate of increase is greatest among injection drug users and through heterosexual transmission.

Recent research has shown that the disproportionate incidence of HIV/AIDS among inner-city, minority populations is due in large part to low rates of compli-

ance and lack of effective community-based, comprehensive, health education systems and programs for providers and patients.

Low rates of compliance can most often be attributed to the following:

Cost.—The costs for HAART therapy is enormous, as much as $10,000–$15,000 per patient per year. This figure does not include other costs for care or daily medications. There is great concern among people living with AIDS that access to care for all people be assured.

Although the federal program, AIDS Drug Assistance Program (ADAP), is designed to provide financial assistance for uninsured or underinsured HIV/AIDS patients in purchasing required medications, it has been unable to keep up with the increasing demands;

Testing.—Many individuals are hesitant to be tested for HIV and go undetected. As a result, patients go without care until the symptoms become evident and they are in need of immediate services;

Compliance.—Many HIV infected patients are unwilling or unable to get timely clinical care or to adhere to complex and difficult drug regimens. Often patients have little or no understanding of newer therapies and their potential benefit, resulting in low levels of compliance.

While many piecemeal health education systems for HIV/AIDS exist throughout the United States, there are none that are taking full advantage of today's cutting-edge scientific landscape. It is well known that the adoption of computerized clinical information systems in health care lags behind the use of computers in most other sectors of the economy. There is no HIV educational system that provides care, clinical assistance and interactive education, while integrating the patients and community-based providers into the care giving and decision-making process. Especially given today's technological advances, this is a striking deficiency in health education systems for HIV/AIDS.

At this critical time in the evolution of the long-term treatment of HIV/AIDS, it is important that we focus on the creation and implementation of comprehensive educational systems of care for individuals affected by HIV/AIDS. This focus will improve treatment and prevention efforts, increase the rate of the early detection of HIV, increase the rate of treatment compliance and ultimately decrease the spread of HIV.

It is critical that the federal government focuses its resources on creating comprehensive HIV education systems that fully integrate specialists, community-based providers and patients and evaluate the outcomes of those systems.

The CORE Center believes that the most effective educational system is one which uses today's state-of-the-art technology and creates interactive systems of education that provide real-time feedback and enables providers to optimize care for HIV/AIDS patients. That is why the Center is proposing to establish the "Enhanced Provider and Patient Education Initiative" a model technology-based system for the education of specialty and community-based providers and the education and treatment of patients.

We are at a critical point in the care of patients with HIV/AIDS. We have achieved major goals in our basic science understanding of the course of HIV disease and have applied this understanding to the care of patients.

Successes in the treatment and care of HIV/AIDS have led to increased numbers of AIDS patients surviving longer and once again becoming productive members of society. Hospital admissions for AIDS care are down, and clinics are experiencing dramatic increases in the demand for out-patient services. Although science has taken big steps toward making AIDS a long-term manageable disease, by no means do we have a cure for the largest public health crisis of the century.

Additionally, given the frequently changing scientific landscape and related improvements to available therapies and care protocols, it is difficult for specialty-care providers, and more so for community-based care providers, to keep abreast of the most recent advances in care and medication usage. Lack of access to up-to-date information also hinders compliance of patients in their therapy and clinic schedules.

There is no successful system in place that provides caregivers and patients the education and scientific tools needed to ensure that they make the most of the advances in care.

Patients need to be educated regarding their drug therapies and other care options available to them. Because many inner-city patients are unable or unwilling to routinely access the local primary health care system, this education and compliance is very difficult.

Moreover, the treatment of patients with HIV/AIDS in Chicago and other urban areas is made more difficult by the large number of patients receiving care and the large number of potential patients whose infections have not been recognized who will ultimately need care.

Compliance for patients in lower socioeconomic populations has been more difficult to achieve. Unfortunately, incomplete compliance with medication regimens greatly increases the risk of the emergence of strains that are resistant to the newest therapies thus increasing the likelihood of the spread of HIV/AIDS.

Specialists alone are not able to provide primary care for all affected patients, especially those in underserved communities. This means that other providers need to be trained in the complicated care of patients with HIV/AIDS to insure that the new HIV medications are used appropriately and to the greatest benefit for all patients.

To be effective, these community providers must have current medical data and protocols at their fingertips. They must be able to access immediate expertise to ensure the most accurate interventions and care for patients. Today, due to weaknesses in the HIV/AIDS care infrastructure, they are often unable to access this type of critical information or feedback in a timely and effective fashion.

The Enhanced Provider and Patient Education Initiative will focus primarily on methods of optimizing the delivery of care through the real time education of specialists, nurse practitioners, physician's assistants, and community-based providers caring for people with HIV/AIDS. The secondary goal is to screen patients with other sexually transmitted diseases for infection with HIV and to initiate therapy at an early stage of HIV disease.

The CORE Center's proposed initiative will be composed of four elements:

EDUCATION

There is growing evidence that use of practice guidelines and disease management systems can help direct and improve care given to patients. In the complicated arena of HIV care, where multiple antiretroviral regimens are available and where interactions with other medications are common, the use of such protocols is particularly important.

The CORE Center's Enhanced Provider and Patient Education Initiative will disseminate expert consensus-derived protocols for the care of patients in the CORE Center and in the community. It will use a comprehensive technology-based education system to implement a program for health care providers, including specialists, generalists, nurse practitioners, and physicians assistants, to optimize care of HIV/AIDS. This system will provide education services both in the CORE Center and to the community clinics associated with the Cook County Bureau of Health Services.

Through the use of current state-of-the-art, interactive computer technology, this initiative will allow providers to order medications and laboratory tests through an interactive computer system which will direct therapy by computerized educational screens that appear sequentially during the ordering process. These educational screens will assist providers in prescribing the most effective, economical and comfortable therapies for patients.

Computer facilitated review of patient care will be performed daily by using computer flagging systems to ensure that care conforms to guidelines and by expert review of computerized records that will be transmitted to the CORE Center from affiliated clinics on a daily basis.

Feedback will be provided for caregivers based on the reviews described above. This will create a continuous improvement loop. Guidelines and additional education efforts will be redesigned on a continual basis using the results of computer facilitated reviews of patient care. The process will be used for educating patients at each visit, teaching patients about HIV disease and related issues and integrating patients into the decision making process. It will improve compliance with the use of social service interventions for the CORE Center's indigent population.

Computer kiosks stationed throughout the CORE Center will allow patients to review information on AIDS treatment, to formulate questions, and to interact with other patients.

EARLY INTERVENTION

The CORE Center will evaluate early intervention programs in terms of their effectiveness and successful coordination with the full continuum of care. This program element will target HIV screening of inner-city populations with sexually transmitted diseases so that advances in HIV care can be made available as early as possible in the course of HIV infection and help to stop the increase in the numbers of HIV cases reported daily.

The CORE Center will include a screening clinic for patients with sexually transmitted diseases. Currently, only 10 percent of the more than 10,000 patients seen yearly at Cook County Hospital with STD's undergo screening for HIV infection.

The CORE Center will provide HIV testing and counseling of all patients who are seen for treatment of STD's.

The CORE Center will assess the impact of early intervention programs on the stage of illness at which patients enter into care in the CORE Center. Specifically, patients will be seen earlier in the course of HIV infection which will improve their chance of responding to therapy. In addition, the CORE Center will provide HIV testing and counseling for all patients who are seen for treatment of STD's.

COMPLIANCE

The Center will implement an aggressive compliance program to insure application of sound treatment principles and protocols, medication compliance and clinical follow-up.

Provider compliance with treatment guidelines will be measured, corrected, and reinforced through innovative use of provider order entry systems, as noted above in the education program. Patient compliance will be reinforced through participation in the development of treatment plans, through clinical pharmacy teaching sessions, and through the use of medication reminder devices. The CORE Center is currently developing a variety of compliance programs and believes that patient will be an important source of patient empowerment and "buy-in" to care.

OUTCOMES MEASUREMENT

The Center will implement an aggressive and comprehensive outcomes measurement program that will measure patient outcomes and cost of care by different community provider groups in the CORE Center and the community. This HIV/AIDS cost and outcomes data, which does not currently exist for any AIDS treatment program, will be extremely useful. Importantly, this initiative will also measure improvement rates in provider compliance with recommended guidelines and measure the cost for achieving improved compliance with treatment protocols.

In closing, Mr. Chairman, the CORE Center believes that this technology-based education initiative is a prototype for national efforts to meet the educational challenges presented by infectious diseases, especially, HIV/AIDS. As such, the CORE Center is seeking $6.9 million over five years for the establishment of the Enhanced Provider and Patient Education Initiative.

Again, I appreciate the opportunity to submit testimony for the record and to share with you and the other members of the subcommittee the details of this unique initiative. We look forward to continuing to work with you and your subcommittee as well as the Administration in support of this initiative.

PREPARED STATEMENT OF GLEN A. GRANT, ESQ., BUSINESS ADMINISTRATOR, CITY OF NEWARK, NJ

Thank you for the opportunity to present information to you about economic development opportunities in Newark, New Jersey, which are designed to involve all of our residents in the City's renaissance. Newark is at the heart of the vast metropolis that extends from Boston to the Washington, D.C. metropolitan area. Fully one-quarter of the population of the country either lives within, or is easily accessible to, this area. We are only 8 miles west of New York City, within 100 miles of Philadelphia, and only a 4-hour drive or 1 hour flight away from Boston and Washington, D.C. Our location is enhanced by ready access to transportation connections, via rail, sea, air, and nine major interstates and state highways. Port Newark/Port Elizabeth has become the largest container port on the east coast because of the ability to move goods quickly and economically to and from the area. Newark International Airport, the ninth largest airport in the U.S., is one of the fastest growing in the country.

Despite our active port and airport facilities, fully-occupied new office buildings, success New Jersey Performing Arts Center, and complex of institutions of higher education and hospitals, our unemployment rate continues to hover around a staggering 15 percent. We are the fifth most densely populated city in the nation, where the mean family income is only barely above the poverty line. Our population is poor: the 1990 census showed an aggregate poverty rate of 26 percent, and an incredible 37 percent of our children live below the poverty line. A full 50 percent of the children in our public schools are from families receiving AFDC. Jobs for the parents of these children will positively affect this population more than any other factor.

We have lost many of the jobs that match the skills and work experience of a large segment of our population. We know, however, that the jobs created through

the transportation industry cross the whole spectrum of employment opportunities. With the decline of our manufacturing base, shipping, warehousing and related blue-collar employment are essentially the only good paying jobs left in the area which do not require higher education. Further, the thousands of white-collar jobs in such varied industries as insurance, law, customs brokerage, and related transportation and hospitality industries fuel the economy of the City, both directly and through the secondary support industries they, in turn, sustain. The growth of the hotel and hospitality industry is another key segment in the production of job opportunities for Newark residents.

It is a goal of the administration of Mayor Sharpe James to create jobs to meet the range of needs of Newark's residents, and we ask for the Federal government's partnership in continuing to expand the number of these vital employment and investment opportunities. Newark has been designated a Federal Enterprise Community, and the projects which Newark is presenting to you for funding consideration all lie within this zone, and are designed to provide employment for its residents.

The City of Newark is proposing projects at important sites in close proximity to Newark International Airport. Directly across U.S. Route 1 from the airport, is an underutilized abandoned rail yard of slightly over 100 acres known as Waverly Yards. The Port Authority of New York and New Jersey operates the first phase of an airport monorail, and has begun construction of the second phase, which will cross U.S. Route 1 and connect to a new stop on the Northeast Corridor rail line within Waverly Yards. The completion of the monorail will provide a direct, fast rail linkage with downtown Newark, and all of its rail and bus connections. The City of Newark now owns much of this property, and wishes to promote development of it to its full potential. To do so, several critical infrastructure improvements must be accomplished.

First, there is currently only one road leading into the site. Right-of-way acquisition through property owned by existing businesses and roadway construction are necessary for appropriate accessibility. Second, some of the area will require environmental remediation before facility construction can take place. In addition, basic site services, such as power, water, and communication lines, need to be brought into the location. Site clearance and acquisition of several parcels from private owners will complete a building site of unparalleled attractiveness.

The City proposes to make the site available for the development of facilities that would make the best use of the proximity to the airport and the direct rail link, such as a hotel, conference center, and office park. Private developers will have the opportunity to purchase or lease a portion of the property for construction of primary or complementary facilities. It has been estimated that activity on this site will ultimately generate hundreds of jobs in the trade, hospitality, convention and transportation industries. Further, the City of Newark is pursuing the establishment of an International Trade Center, which is currently in a study and preliminary design phase. The site for this facility has not yet been determined, but it is projected to be in a location which will also take advantage of the transportation links described. We are requesting that this committee make an appropriation of $6,000,000 to help us reach our long range goals for the Waverly Yards; to enable the generation of job and economic development opportunities for Newark's residents, and create needed enhancements to a regional transportation center.

In close proximity to Waverly Yards and the airport/seaport complex, there are other areas in need of redevelopment which could have a tremendous impact on the economic well-being of our City. Thousands of manufacturing and shipping jobs have been lost in the nearby Frelinghuysen Avenue industrial corridor and other nearby locations. Yet Port Newark and the airport generate millions of dollars in the businesses of processing, packing and distribution. Conversely, Newark is home to a large exporting community, which make use of our key position on the transportation network.

There is an inventory of dozens of factory, warehouse buildings, and vacant properties which have been underutilized, even abandoned. Some of them are city-owned as a result of tax foreclosures, many others have simply been closed by their owners. Many of these sites have been determined to be contaminated, and remediation of them would enable the City to sell them for development or put them back on the tax rolls. As a designated Brownfields pilot project, Newark is utilizing this funding to develop new technologies for site remediation, work with the State and Federal agencies to improve interagency cooperation and streamline the permitting process, and implement innovative financing systems, such as our Environmental Opportunity Zone tax abatement process. In addition to the $200,000 federal pilot grant, the State of New Jersey has been providing funding for preliminary assessments and site evaluation. However, in order to reclaim these properties for productive

use, the City of Newark is seeking funds to implement remediation on City-owned properties.

An appropriation of $3 million to launch a pilot remediation program of City-owned brownfields sites so they can be sold and converted back to productive uses would allow us to begin a process of returning these facilities to the tax rolls, and returning our population to work. The additional jobs that would be generated in the distribution industry and other transportation-related industries will serve to create family incomes, which will in turn create retail and housing demand in Newark. The plentiful and competitively priced labor force within the City in general, and our Enterprise Community in particular, will provide a ready supply of employees for operations in the types of industries we need to keep and expand.

Newark is also home to five institutions of higher learning, ranging from a fine community college to two law schools and a medical school. This complex also is a part of our Enterprise Community. Along with a public/private partnership of government and business, they are developing University Heights Science Park, with a high-tech business incubator, day care center, and lab space already operational. A federal allocation of $9 million would be utilized to leverage approximately $130 million in private and non-federal public sector funds to begin and complete the next project phase; an International Center for Public Health. This Center would be a world-class infectious disease research and treatment complex comprised of the Public Health Research Institute and the University of Medicine and Dentistry of New Jersey's National Tuberculosis Center. Funding allocated by this committee would be applied toward construction-related costs, which will create approximately 300 direct and indirect construction and technology jobs, and ultimately several hundred permanent employment opportunities for office workers, technicians, computer operators and scientists.

We are asking for your help in changing the situation in Newark. Through the allocation of funding for the projects I have described, you will create long-term economic opportunity for people who currently have none. Through these economic development initiatives, you will help some of Newark's currently unemployed population to earn a decent salary and support their families.

PREPARED STATEMENT OF DR. RAYMOND E. BYE, JR., ASSOCIATE VICE PRESIDENT FOR RESEARCH, FLORIDA STATE UNIVERSITY

Mr. Chairman, thank you and the Members of the Subcommittee for this opportunity to present testimony. I would like to take a moment to acquaint you with Florida State University. Located in the state capital of Tallahassee, we have been a university since 1947; prior to that, we had a long and proud history as a seminary, a college, and a women's college. While widely-known for our athletics teams, we have a rapidly-emerging reputation as one of the Nation's top public universities. Having been designated as a Carnegie Research I University several years ago, Florida State University currently exceeds $100 million per year in research expenditures. With no agricultural or medical school, few institutions can boast of that kind of success. We are strong in both the sciences and the arts. We have high quality students; we rank in the top 25 among U.S. colleges and universities in attracting National Merit Scholars. Our scientists and engineers do excellent research, and they work closely with industry to commercialize those results. Florida State ranks seventh this year among all U.S. universities in royalties collected from its patents and licenses. In short, Florida State University is an exciting and rapidly-changing institution.

Mr. Chairman, let me describe three projects that Florida State University is pursuing this year. The first is a joint economic development project with the City of Tallahassee. The project, entitled the Frenchtown Arts and Cultural Entertainment District Economic Development Initiative, will link the development of a new performing arts facility on the FSU campus with an urban redevelopment project to revitalize a blighted area and create employment opportunities for community residents.

The project, located on the FSU campus but adjacent to the City's Frenchtown area, seeks to use the development of a new performing arts center as the catalyst for development of an arts and culture complex which would house hotel, retail, entertainment and residential uses. Frenchtown was once a thriving area and center of the African-American community. However, years of neglect and lack of private sector investment have reduced Frenchtown to a distressed area with deteriorated buildings, vacant properties and with an overall image of crime and decay. The Center will create a "destination" which will attract sufficient patrons to support collateral retail and entertainment development. The proximity of the University site to

the downtown area will provide the market demand to support residential and hotel development. The proposed arts and culture complex would also house a museum of African-American Arts and Science that would also help support the site as a destination and link the project to the greater Frenchtown community. The City and University are requesting $3 million in fiscal year 1999 from the U.S. Department of Housing and Urban Development under its Economic Development Initiative for this economic development project. Funds for the total project will be leveraged at a ratio of about 20 to 1 from other funding. The project is located in a low-income census tract, will remove blight, will create employment opportunities for low-income persons, and satisfies the requirements associated with the Community Development Block Grant Program.

The next project is a new Institute for Upper Ocean Predictive Studies (IUOPS). Housed at Florida State University, it will include scientists from half a dozen institutions around the United States. There is a critical need to better understand the upper ocean carbon cycle both for global change studies and for fisheries. This could result in major improvements in our understanding and anticipating climate changes that affect many facets of our daily lives. New NASA satellites measuring winds, ocean currents, and sea level provide excellent remote sensing data to be assimilated into ocean models. This new Institute will serve a major analytical role in analyzing and interpreting these new data. FSU has the computing capabilities available to handle the large data sets flowing from these satellites. We will seek $4 million for fiscal year 1999 from the National Aeronautics and Space Administration for establishing this Institute.

Finally, FSU is establishing an FSU Institute for Molecular Environmental Science and Ecology. This Institute has the objective of developing predictive understanding of the behavior and cycling of elements and compounds in aquatic ecosystems (wetlands, estuaries, lakes, rivers, etc.) at the molecular level. The Institute will develop chemical indicators of the biological functioning and the health of aquatic ecosystems; develop species-specific sensors that monitor chemical changes in the environment; and develop new aquatic environmental models based on the results of the work. The results of this work will contribute substantially to the restoration and rehabilitation of the damaged Kissimmee River ecosystem, and have a major positive effect on understanding and predicting environmental changes. This Institute, working closely with the National High Magnetic Field Laboratory on the FSU campus, will employ state-of-the-art equipment from that facility to do much of the monitoring of these environmental changes. Many of these instruments are one-of-a-kind and provide this Institute with unparalleled capabilities to assess various impacts on these aquatic ecosystems. We are seeking $2 million from the U.S. Environmental Protection Agency in fiscal year 1999 for this effort. State resources will be sought to complement the EPA funding.

Mr. Chairman, these activities discussed will make important contributions to solving some key problem and concerns we face today. Your support would be appreciated. Thank you again for this opportunity to present these views for your consideration.

PREPARED STATEMENT OF HENRY CAGEY, CHAIRMAN, LUMMI INDIAN NATION

My name is Henry Cagey, Chairman of the Lummi Indian Nation. The Lummi Indian Nation, located on the northwest coastline of Washington State, is the third largest tribe in Washington State serving a population of over 5,200. On behalf of the Lummi Indian Nation I want to thank you and the members of the Committee for the opportunity to express our concerns and requests regarding the fiscal year 1999 Office of Public and Indian Housing, Indian Housing appropriations. The following document presents the Lummi Indian Nation's funding priorities, as well as regional and national concerns and recommendations for your consideration.

I had the honor of being the Tribal Co-Chair for the Negotiated Rule Making Committee which worked with HUD officials to develop the regulations for The Native American Housing Assistance and Self-Determination Act (NAHASDA). While these regulations need further attention in some areas, I believe that they present a reasonable regulatory framework in which Tribes can continue the development of their Housing programs, services, functions and activities.

1999 APPROPRIATION PRIORITIES

—+$800 million Indian Housing Assistance under NAHSDA Funding.—While the Lummi Indian Nation supports the Administration's request of $600 million, the housing need among American Indians and Alaskan Natives demand a more vigorous financial response than the amount proposed by the Administra-

tion. We request that at least $800 million be provided annually to address the current backlog of housing needs, a backlog that continues to increase at an alarming rate.

—+$80 million To Support Community Development Block Grants.—The Lummi Indian Nation supports the Administration's request of $60 million. However, in view of the extreme development needs among American Indians and Alaskan Natives, additional funding is justified.

—Support for the Technical Amendments Proposed by the National Indian Housing Council.

APPROPRIATION SUMMARIES, JUSTIFICATION AND RECOMMENDATIONS

+$800 million Indian Housing Assistance under NAHASDA Funding

The need for significant increases in the amount of funds available to Tribal Housing Programs is the basis for Indian Country's support for the NAHASDA Program. The amount proposed by the Administration for 1999 already represents an important increase over the funding for past years, yet, it does not address the cost of the substantial backlog of housing and development need in Indian and Native Alaskan Nations, Tribes and Communities.

The following discussion of Lummi Indian Nation Housing needs indicate that the cost of addressing the housing shortage for the Lummi Indian Nation would be in excess of $100 million. Therefore, the amount requested by the Administration is not sufficient. If this amount is not increased, the Lummi Indian Nation will not be able to address is substantial backlog of Housing Needs and its deficit will continue to grow, however at a substantially slower rate.

At the $600 million level, the Lummi Indian Nation Housing backlog will continue to grow at the rate of $1.5 million annually. This is a significant improvement over previous years during which the deficit grew at the rate of $4 million annually.

However with a National appropriation of $800 million, the Lummi Indian Nation Housing needs deficit would stop growing. This level of appropriations would enable the Lummi Indian Nation to fully fund its annual increase in housing needs and slowly address its substantial backlog. This level of funding would provide the basis for hope while lesser funding levels offer only a reduction of despair.

LUMMI INDIAN NATION HOUSING NEEDS

Rental and Homeownership Waiting List

Currently, the Lummi Indian Nation Housing Waiting List contains the names of 859 families eligible to participate in HUD Housing Programs. The Housing Waiting List includes the most needy members of the Lummi Indian Nation. Almost half of the families on this list have incomes which would enable them to enter a subsidized home ownership program. The total costs of meeting the housing needs of moderate and low income members of the Lummi Indian Nation is estimated to be $77 million.

Specialized Support Housing Needs

In anticipation of NAHASDA, the Lummi Indian Nation has completed the planning, development and will soon start construction of an Seniors Assisted Living Facility on the Reservation. The Lummi Indian Nation still needs to address the specialized supported housing needs of its disabled membership and its "out of family" youth through a group home setting. The programmatic flexibility and the financial support provided through NAHASDA will enable the Lummi Indian Nation to meet this continuing need. The estimated total costs for meeting the specialized and supported housing needs of the Lummi Indian Nation is $25 million.

Water and Sewer Infrastructure

Based on the foregoing estimates of current total housing needs, the Lummi Indian Nation must finance a significant increase in its water and sewer infrastructure. The extensions of sewer and water lines needed to accommodate housing needs is $13 million. Another $1.8 million is needed to overhaul the existing sewage line pump stations. An additional $10 million is needed to expand the existing sewage treatment facilities to meet the demands of development.

Access to Private Mortgage Financing Markets

Those Lummi Indian Nation members who are financially capable of securing financing from private mortgage resources have not been able to access this funding due the trust status of reservation lands, the lack of foreclosure procedures in Tribal Legal Systems and the lack of knowledge of the financing assistance program from HUD on the part of Tribal members and local bankers. Our Housing Program staff

will work with our Tribal members and local bankers to ensure access to this assistance. The ability to access private financing is key to our overall effort to address the housing needs of all Tribal members.

LUMMI INDIAN NATION HOUSING PLAN

Priority of Need Rental Housing and Homeownership Programs

We anticipate the Lummi Indian Nation Housing Plan and the majority of Tribal Housing Plans developed under NAHASDA, will continue to place the highest priority on the need of the applicant family for both rental and homeownership housing assistance. Most if not all of the current indicators of need required by HUD will remain. Additional criteria will be developed and used to assist the tribes to tailor housing service to the housing needs and the traditional values and customs of their people. One example of additional criteria would be the priority for extended family groups both in cluster sites and in scattered site plans. Family proximity increases the value of family pride in the long term maintenance of houses and neighborhoods.

Range of Services and Range of Incomes

The Lummi Indian Nation Housing Plan under NAHASDA includes housing services appropriate for all levels of income, beginning with the most destitute to those whose income would have precluded them from participating. This does not mean the same services, e.g., subsidized and rental housing for low and moderate income families versus private financing for members who have higher income levels, allowing for a broad range of housing assistance enjoyed by non-Indians in all other non-reservation communities as commented on further in the foregoing item.

Accessing Private Mortgage Financing Resources

Those who are financially capable of participating in private mortgage financing markets will be provided with assistance to secure the credit they need to meet their own housing needs through the loan guarantee programs, similar to the services now provided by HUD to millions of Americans who are able to access the private mortgage finance markets.

Emergency Shelter Housing Services

The members of the Lummi Indian Nation do not have access to an Emergency Housing Shelter. Incredibly, those members who have no income and no shelter are not currently served by Housing Programs develop by the Lummi Indian Nation under the guidance of HUD. Under NAHASDA, the Tribe will be able to finally address these very basic needs.

Supported and Specialized Housing Needs

The Lummi Indian Nation plans complete construction of the Seniors Assisted Living Facility this year and will begin plans for phase II of this facility. Plans are under development for a total of 58 units. Planning will also begin for youth group home facilities.

Water and Sewer Infrastructure

The Lummi Indian Nation NAHASDA Plan will include extensive funding for water and sewer infrastructure development.

CONCLUSION

In conclusion, Mr. Chairman, I want to state to the Committee that they are a part of an historic process of restoring to Tribes the ability to control the present and shape the future in a manner that has not been possible for at least a century. NAHASDA is a critical part of the process of the restoration of Tribal governments which started under the Self-Governance Initiative, an initiative that began over ten (10) years ago in the Department of the Interior.

Tribal governments, not HUD bureaucrats are the elected representative of Indian people. These duly elected representatives have taken a back seat to the bureaucrats for far too long. This resulted in housing programs which failed to fully meet the need of the people, because the needs of the federal government have come first in the minds of the bureaucrats. For far too long, HUD has been able to bypass elected officials who had authority and responsibility over the reservation based development process, except where the HUD Housing Programs were involved. Under NAHASDA, the Tribe for the first time is empowered to create comprehensive reservation based plans for housing management and development.

During your deliberations on these funding matters, please remember the overwhelming majority of Tribal members have not always been included in the Amer-

ican dream of safe, sanitary and affordable home ownership. Their poverty, the trust status of their lands and the lack of credit programs designed to meet the unique legal and social environment of the Reservation have combined to create third world housing conditions on many Indian reservations. Under NAHASDA, we have a combination of financial, regulatory and social tools to address these problems. Through the coordinated efforts of Tribes and HUD, we will see a reduction and with the provision of adequate resources, we will see the elimination of these problems. In order to fully fund annual housing needs of the Lummi Indian Nation, it needs annual funding of $6.550 million. Under the Administration's proposed funding level, it would receive $4.3 million. The administration's proposed funding level is a significant step forward but does not go far enough.

LUMMI INDIAN NATION

Housing needs	Current estimated			Current annual growth percentage factor [1]	Estimated annual increase cost
	Total units needed	Cost/unit	Total current costs		
Rental and Homeownership Waiting List	859	$90,000	$77,000,000	5	$3,800,000
Total Need			77,000,000		80,800,000
Specialized Support Housing Needs	598			5	1,150,000
Seniors	200	80,000	16,000,000		
Disabled	120	150,000	5,400,000		
Youth Group Home	([2])	150,000	2,100,000		
Total Need			23,000,000	5	24,150,000
Water and Sewer Infrastructure				5	1,580,000
Water and Sewer Lines Extensions	([3])	100,000,000	18,000,000		
Sewer Line Pump Stations Upgrade	18	[4] 200,000	3,600,000		
Sewer Treatment Facility Upgrade	2	5,000,000	10,000,000		
Total Infrastructure Development Needs			31,600,000		33,180,000
Total Housing and Development			131,000,000	5	6,550,000

[1] Based on Annual Live Birth Rate of 112 for the years 1990 through 1997, 30 percent births first birth to teen mother, 30 percent of births, first birth to non-teens. First live birth signals household formation. Estimated Annual Rate of Household formation 50.
[2] 78 persons per 14 units.
[3] 1 million per 5 million of development.
[4] Per pump station.

PREPARED STATEMENT OF THE NEW YORK UNIVERSITY

A CENTER FOR COGNITION, LEARNING, EMOTION AND MEMORY (CLEM)

New York University respectfully seeks the Subcommittee's support for a project of scientific research which is not only an important priority for the University, but which we believe will advance national interests through enhanced scientific understanding of normal brain development as well as the many disabilities, disorders and diseases that erode our ability to think and learn.

The University proposes to establish a Center for Cognition, Learning, Emotion and Memory. This Center will draw on the University's strengths in the fields of neural science, biology, chemistry, psychology, computer science, and linguistics to push the frontiers of our understanding of how the brain develops, function malfunctions, matures, and ages. In addition, as a major training institute, the Center will help prepare the next generation of interdisciplinary brain scientists.

Our project addresses the research and programmatic priorities of this subcommittee and the Congress. We thank the Congress for taking the time to consider and give its support to the important research being conducted in this area. We at New York University firmly believe that in the coming decades, a federal investment in mind and brain studies will repay itself many times over.

To establish this Center, New York University is seeking $10.5 million over five years to support and expand the research programs of existing faculty, attract additional faculty and graduate and postgraduate trainees, and provide the technical resources and personnel support that will allow us to create a premier, world class scientific enterprise. Individual researchers in the science programs at NYU compete for investigational support through traditional routes, quite effectively. However, these traditional funding sources do not address the specific need for establishment of a new cross-disciplinary area of scientific study, particularly one that transcends biomedicine, psychology, education, computer science, cognitive science, and

linguistics. Nor do they provide the extensive funding necessary for faculty and student support and personnel and technical resources.

Exploration into the fundamental neurobiological mechanisms of the nervous system can help educators, scientists, health care providers, policy makers, work force managers, and the general public by enhancing our understanding of normal brain development and function in both children and adults, thereby helping us to detect and correct impediments that affect our ability to learn, to think, and remember, and to mature as productive members of family and society. Research in this area will ultimately contribute to a better understanding of how children learn at different stages; how childhood and adult learning is shaped by different cognitive styles; how aging affects memory; and how diseases alter memory.

New York University is well poised to make important contributions in this area. Founded in 1831, the University today is the largest private university in the United States, with over 49,000 students representing a broad range of backgrounds and coming from every state and over 120 foreign countries. NYU comprises thirteen schools, colleges, and divisions and is known for the excellence of its schools of law, medicine, film, and business; the Institute of Fine Arts; the Courant Institute of Mathematical Sciences; and departments in the Faculty of Arts and Science, notably neural science, chemistry, biology, psychology, French, English, philosophy, anthropology and economics. Located in the heart of the world's most cosmopolitan and diverse city, New York University is a leading national—and in many fields, international—center of scholarship, teaching and research. It is one of twenty-nine private institutions constituting the distinguished Association of American Universities, and is consistently among the top U.S. universities in funds received from federal sources and from private foundations.

The Center for Cognition, Learning, Emotion, and Memory will be an interschool, interdisciplinary unit linking faculty, students, programs and resources from several schools of New York University. These are the Faculty of Arts and Science, Courant Institute of Mathematical Sciences, School of Medicine, School of Education, and Center for Digital Multimedia. CLEM, to be housed at the University's Washington Square campus within the Faculty of Arts and Science, will be the locus for laboratory research and training in fundamental neurobiological, psychological and computational studies of the nervous system. In addition, CLEM will be a point of convergence for faculty and students seeking to incorporate these research perspectives into their own work in education, medicine, and technology, and seeking as well to enrich laboratory research with interdisciplinary collaboration and conceptual bridges.

The new Center will be administratively housed within the NYU Department of Neural Science. This department includes affiliated investigators from biology, chemistry, psychology, physics, computer science, medicine, and mathematics. It is a national center of research and teaching, encompassing a pre-eminent faculty, and generating substantial external funding from federal and state agencies as well as the private sector. The department holds world-class stature in the study of the nervous system as a sensory communications system, as a controller of motor activity and as a neural network that generates the emotional foundation of voluntary behavior. The neural sciences at NYU have attracted millions of dollars in generous support from, for example, the NIH, NSF, and EPA, the Howard Hughes Medical Institute, the W.M. Keck Foundation, and the Alfred M. Sloan Foundation. Its faculty have won prestigious awards, being named National Institutes of Health (NIH) Merit Awardee, Howard Hughes Medical Institute Investigator, National Science Foundation (NSF) Presidential Faculty Fellow, McKnight Foundation Scholar in Neuroscience, and MacArthur "Genius" Fellow. The department cultivates productive linkages with investigators from other disciplines, educational institutions, and research sectors. Thus, linkages between neural scientists, and educators in the NYU School of Education, clinicians in the NYU School of Medicine, and software designers, computer scientists, and graphic artists in the NYU Center for Digital Multimedia facilitate the application of scientific discoveries in the classroom, in the clinic, and in new technologies.

The new Center for Cognition, Learning, Emotion, and Memory Studies will bring the University's many strengths in these areas more fully to bear on the challenges and opportunities that multi disciplinary studies present. The Center will provide an organizational identity, core resources, and common focus for the university's efforts. For students, it will provide an educational forum to apply knowledge gained in one discipline to problems in other disciplines. For researchers, the Center's synergistic linkages between basic science departments, biomedical departments, and mathematical and computational units will encourage intellectual cross fertilization and will permit the consolidation of individual efforts in multi disciplinary but in conceptually coordinated efforts. For colleagues in the fields of education, medicine,

and technology, the Center will facilitate connections with laboratory scientists and enhance the translation of research knowledge into health care, educational, and commercial applications. The enhanced research and training that will be possible at the Center will attract public and private funding above and beyond the substantial funds, honors and recognition already awarded to the University's researchers, and will support the Center's continued growth and development.

THE CASE FOR THE NEW CENTER AT NEW YORK UNIVERSITY

New York University has the resources necessary for the successful creation and operation of a major multi disciplinary research and training center. There is top-level administrative leadership, a commitment to science, intellectual and administrative resources, established frameworks for interdisciplinary and interschool collaboration, strengths in neuro-biological, psychological and computational sciences, and standing in the international scientific community. The Faculty of Arts and Science, which encompasses the College and the Graduate School, has a preeminent faculty of 560, an annual operating budget of $197 million, a student population of approximately 9,200, and over 450,000 square feet of dedicated space apart from shared University facilities, making it a vital center of teaching and research. The science enterprise is especially vigorous, the result of a decade-long multi-million dollar development plan to renovate research and teaching laboratories and recruit distinguished junior and senior faculty, a pioneering science curriculum for undergraduate non-science majors, extensive research experiences for undergraduate science students, and an enhanced graduate student training program of supervised research and teaching assistantships. New York University has, as part of its multi-year science development plan, created a world-class and widely recognized neuroscience program. Neural science at NYU is particularly well known for research in visual processing and perception, theoretical neurobiology, molecular and developmental neurobiology, and cognitive neuroscience. It has outstanding researchers and well-established strengths in visual neuroscience, auditory neuroscience, cognitive science, neuromagnetism, neurochemistry, neurobiology, behavioral neuroscience, mathematical modeling, and computer simulation. Recently, these faculty have begun to unravel the biological mechanisms underlying cognition, learning and memory. As an example, NYU scientists have made important contributions to visual processing, deriving the most successful methods available for studying nonlinear interactions in neuronal information processing; emotion, giving the first real glimpse into the neuroanatomy of fear; neural development, with landmark work on the vision system; and the neural bases for auditory function, including neural sensitivity to auditory motion stimuli.

With these strengths, New York University is strategically placed to create a new and distinctive center that will produce a new understanding of the brain, and new ways of using that knowledge for improving human health and welfare. The Center for Cognition, Learning, Emotion, and Memory will capitalize on our expertise in physiology, neuroanatomy, and behavioral studies, and will build on active studies that range from the molecular foundations of development and learning to the mental coding and representations of memory. The Center will encompass diverse research approaches, including mathematical and computational modeling, human subject psychological testing, use of experimental models, and electrophysiological, histological, and neuroanatomical techniques. Examples of the kinds of research that will be conducted are taken from our current research efforts, which are now dispersed in the departments of biology, chemistry, neural science, psychology, and computer science: Neural scientists are investigating the anatomical and physiological pathways by which memory can be enhanced; the conditions that facilitate long-term and short-term memory; and the brain sites where all these memories are processed and stored.

Neural scientists, working with computational scientists, are using digital imaging to characterize normal and pathological mental processes in humans. Developmental biologists are studying the molecular basis of development and learning. Vision scientists are studying form, color and depth perception; visual identification; the varieties of visual memory; and the relationship of vision and perception to decision and action. Neural scientists are studying the neuroanatomy and physiology of emotion. Physicists are taking magnetic measurements of brain function that trace the decay of memories. Behavioral scientists are studying learning and motivation, acquisition of language, memory and aging Neurobiologist and psychiatrists are conducting clinical studies of patients with nervous system disorders, especially memory disorders. These existing researchers are well recognized by their peers and have a solid track record of sustained research funding from federal agencies and private foundations.

As we move through the last years of the "Decade of the Brain," NYU, through this new Center, is strategically positioned to lead and contribute to accomplishment of the goals of this important initiative. Establishment of this Center requires support to bring together investigators in the different disciplines that address cognition, learning, and memory. Centralized core resources are required to facilitate collaboration and add efficiency to the research and training functions. New faculty who specifically bridge the disparate areas of knowledge and expertise need to be hired and "set up." Support must be provided to attract students to this new area and to promote work in this area, especially for those from groups traditionally under represented in the sciences.

While other academic institution are also conducting research into brain studies, New York University has special strengths in important emerging research directions that are central to this Subcommittee's priority areas. To elaborate, vision studies at NYU follow an integrated systems approach that has been shown to be the only successful approach to unraveling this complex system, and that has established NYU as an internationally known center for neuroscience studies in vision. The interest in vision, a key input to learning, is associated with focused studies on the learning process, particularly, the interaction with memory and behavior. These researchers are exploring hard and exciting questions: How does vision develop in infancy and childhood? How does the brain encode and analyze visual scenes? What are the neural mechanisms that lead to the visual perception of objects and patterns? How do we recognize letters and numbers? How do perceive spaces, depth, and color? How does the brain move from vision and perception to planning and action? How does the brain process what we see?

Advances in Biomedical and Behavioral Research.—Research conducted in our Center will by its nature address the loss of memory through aging or disease (including Alzheimer's), as well as disorders of emotional systems that commonly characterize psychiatric disorders. Many of the most common psychiatric disorders that afflict humans are emotional disorders—malfunctions in the way emotional systems learn and remember—and many of these are related to the brain's fear system. Neurobiological studies of emotion and emotional memory in the brain will generate important information about the brain systems that malfunction in, for example, anxiety, phobias, panic attacks, and post-traumatic stress disorders. Research into the brain mechanisms of fear will help us understand where our emotions come from, why these emotional conditions are so hard to control, and what goes wrong in emotional disorders. Ultimately, the research will generate clues for prevention and treatment of emotional disorders, focusing perhaps on the ways in which unconscious neural circuitry can in effect, be altered or inhibited.

Accordingly, we believe that the work of this Center is an appropriate focus for the Environmental Protection Agency. The focus of the Center for Cognition, Learning, Emotion, and Memory is entirely consistent with the Department's commitment to the environmental sciences. We believe the Center will help enhance the Department's commitment to education, and especially science. Thank you for the opportunity to submit this testimony for the hearing record.

PREPARED STATEMENT OF LORNE M. MENDELL, PH.D., SOCIETY FOR NEUROSCIENCE

I am testifying on behalf of the Society for Neuroscience, the largest scientific organization in the world dedicated to the study of the brain and spinal cord. Our organization consists of more than 28,000 basic and clinical neuroscience researchers affiliated with universities, hospitals and scientific institutions. We are very grateful for this opportunity to present our testimony and for all that the Subcommittee has done to support neuroscience research.

I present this testimony to advocate for increased research funding for the National Science Foundation and the Department of Veterans Affairs to facilitate the progress of research already being conducted at these institutions and to aid in the funding of future projects and grants. NSF and VA have faced serious limitations on their research programs, but last year this Subcommittee showed its support with an increase given to both NSF and VA. The president's request for fiscal year 1999 is much higher than what was recommended last year. We hope that this Subcommittee will do all in its power to recommend an increase in the appropriation at least equal to that proposed by the President to provide sufficient funding for NSF and VA for fiscal year 1999.

The field of neuroscience, only a quarter of a century old, has already made major contributions to the welfare of our nation's citizens. New insights and effective treatments have been developed for previously hopeless diseases. Without adequate funding at NSF and VA, our fight against neurological diseases and disorders such as

Alzheimer's, Parkinson's, mental retardation, stroke, severe depression, schizophrenia, and spinal cord injury, to name just a few, would suffer serious setbacks.

NATIONAL SCIENCE FOUNDATION

For fiscal year 1999, the administration's budget request is almost $3.8 billion for NSF, a ten-percent increase over fiscal year 1998 and the largest increase ever recommended by a president. The administration requested $2.8 billion for Research and Related Activities, an 11.8-percent increase over fiscal year 1998. This includes $417.8 million for Biological Sciences, a 12.7-percent increase over fiscal year 1998, and $150.3 million for Social, Behavioral and Economic Sciences, a 15-percent increase over fiscal year 1998.

As one of the most broad-based federal funding agencies, NSF is able to maintain a strong representation of scientists covering diverse disciplines. This strength allows the agency to fund the best and brightest researchers, whose discoveries may cross into other scientific fields. NSF funds researchers at more than 2,000 colleges, universities, and other institutions in the United States, funds merit-reviewed research in all 50 states and receives more than 50,000 requests for funds annually, including 30,000 new proposals. The researchers at NSF have aided the advancement of scientific knowledge while furthering technological developments around the world. In fact, five out of the eight Nobel Laureates in the natural sciences in 1996 received NSF funding at some point in their career.

Some of the most exciting and challenging scientific research opportunities address the mapping of function onto the structure of the brain. NSF plays the pivotal role in the development and support of this multidisciplinary research area through activities that provide unique opportunities for neuroscientists to collaborate with investigators in mathematical, computer and information sciences and engineering. Teaming modern brain scientists employing molecular biology, neurogenetic, neurophysiological, psychological and computational techniques with investigators in these other scientific disciplines provides a broad essential scientific infrastructure. This will ultimately lead to the development of novel solutions to problems in neuroscience research. A wide spectrum of model systems, ranging from single-cell organisms to the human brain, are included in the research portfolio of NSF and hold real promise in unlocking the mysteries of brain diseases and disorders.

Basic research is the key to understanding neurological and mental disorders, and medical breakthroughs cannot be achieved without a significant increase in funding. NSF funds projects that investigate basic and fundamental questions about brain structure and function, and NSF funds hundreds of studies on the fundamental properties of the central nervous system. Much of what we know about complex higher nervous and cortical function has been the result of basic brain research. NSF also supports basic research in molecular genetics, which is highly important to understanding the brain. Much of basic neuroscience research is at the cellular and molecular level, and these studies are playing an ever-increasing role in our understanding of brain function as well as our ability to design therapies to treat the damaged brain and spinal cord.

A few examples of the important research conducted at NSF:

—NSF-sponsored research supports a great deal of this country's research in developmental neurobiology, a field dedicated to how the brain evolves, develops and changes.

—NSF-sponsored research programs have pioneered the development of cognitive neuroscience, which combines the study of behavior, cognition and artificial intelligence systems with basic neurobiological studies.

—NSF-sponsored research studies the physiological and psychological processes involved in the production and perception of speech and on the biological basis of language in the central nervous system.

The Society for Neuroscience is deeply and firmly committed to the basic science approach and strategy represented by NSF and supports the Coalition for National Science Funding's request, as well as the president's request, for a 10-percent increase for NSF for fiscal year 1999. CNSF is an ad-hoc advocacy group that supports enhanced funding for NSF and is made up of groups with representatives from the physical and natural sciences, the social and behavioral sciences, mathematics, engineering, higher education, and the industrial world. We all believe that research conducted at NSF serves as the very foundation that scientists build upon.

DEPARTMENT OF VETERANS AFFAIRS

For fiscal year 1999, the administration has requested $300 million for the VA Medical and Prosthetic Research Program, a ten-percent increase over fiscal year 1998. We are grateful that this Subcommittee increased the budget for the VA Medi-

cal and Prosthetic Research Program last year, and hope that it will be able to provide an increase to match at least that of the president for fiscal year 1999. This program deserves strong support from this Subcommittee since it has failed to keep pace with inflation during the last decade. It has been a great concern to many that Congress and the administration, who have been so dedicated to the continued funding of research and who have seen the benefits research has to offer, would undervalue the growth of VA Medical and Prosthetic Research. The level of research funding will, in a very direct sense, compromise the health of tens of millions of our veterans and society at large. Advances in research conducted at VA have a profound and long-lasting impact all over the world.

One of the greatest aspects of VA-sponsored research is that it not only aids our nation's veterans, it also integrates clinical and basic research, and assures the rapid transfer of new knowledge from bench to bedside. Following decreases in funding over the past years, VA has been able to fund only 15 to 20 percent of approved health research projects. In 1986, VA funded 2,434 investigator-initiated research projects. Because of decreasing resources, VA was only able to fund approximately 1,414 programs in 1997. VA-sponsored research has led to many discoveries in the neurological arena and promises to bring more with adequate funding. A few examples of the important research conducted at the VA:

—VA-sponsored research has developed an Alzheimer's disease assessment scale that helps diagnose the condition early while enhancing the quality of life for sufferers of Alzheimer's disease by producing memory therapy, a non-pharmacological technique.

—VA-sponsored researchers are developing treatments for schizophrenia after finding that the severity of schizophrenic symptoms is associated with the level of dopamine breakdown in the spinal fluid and blood.

—The VA hopes to expand its Cooperative Research Agreement with the National Institutes of Health. This collaboration will leverage VA, NIH and private sector funding to promote investigation in designated research areas such as spinal cord injury, rehabilitation and mental health. This cross-agency partnership will aid in the promise of research not only for our nation's veterans, but for every American.

In the past, more than half of the nation's physicians received some part of their medical training through the VA. The VA medical system provides an excellent opportunity to conduct large clinical trials, and veterans receive highly skilled medical care through various affiliation arrangements. However, inadequate funding has inhibited VA's ability to recruit high-quality researchers as it had done in the past. As a result, VA has had to reduce its staff, consolidate hospitals and clinics, and lower a number of existing services at medical centers. Because of the continuing shortfall of research funding within VA, the status and the very integrity of the entire VA research program is in serious jeopardy. This is tragic for the nation's millions of veterans as VA loses valuable research opportunities and America's veterans lose experienced clinicians.

After the increase in funding last year, VA researchers were able to take advantage of their large patient population and coordinated study programs and continue to have the highest percentage of physician-researchers in any federal agency. For every dollar appropriated for research, the VA attracts an additional $1.22 in extramural, outside funding. This funding comes from federal agencies supporting VA clinicians, from the private sector, corporations, pharmaceutical companies, and nonprofit health organizations looking for unique VA research opportunities.

The Society for Neuroscience recommends $314 million for the VA Medical and Prosthetic Research Fund for fiscal year 1999, $42 million over fiscal year 1998. This recommendation is based on the Independent Budget for the Veteran's Administration which is also supported by more than 50 groups dedicated to research funding at VA. The Society has also endorsed the Friends of the VA Medical Care and Health Research's proposal, which recommends a VA medical care appropriation of at least $18.1 billion and a VA health research appropriation of at least $300 million. FOVA consists of more than 60 national academic, medical, scientific, research, voluntary health and patient advocacy associations. The group advocates appropriate funding for health programs that serve the nation's veterans.

In conclusion, the Society for Neuroscience recognizes the constraints that the drive for deficit reduction has placed on all discretionary programs for fiscal year 1999. We are also fully aware of the many critical programs this Subcommittee must fund. However, we strongly believe that the research programs we advocate are investments for the future, and we urge you to place NSF and VA research among the Subcommittee's highest priorities.

We are grateful for this opportunity to present testimony to this distinguished Subcommittee. We encourage members of the public and the Subcommittee to visit

Brain Briefings, our monthly newsletter, on our Web site (http://www.sfn.org/briefings/) to learn how basic neuroscience discoveries lead to clinical applications. This testimony is also available on our Web site (http://www.sfn.org/legislative/index.html).

Thank you for your consideration of our requests.

PREPARED STATEMENT OF CATHERINE BAKER STETSON, STETSON LAW OFFICES, P.C., ALBUQUERQUE, NM

Our purpose in writing is to provide you with public witness testimony on the need for increased funding for Indian Housing programs in fiscal year 1999.

The current budget request submitted by the Department of Housing and Urban Development (HUD) for programs under the Native American Housing Assistance and Self-Determination Act (NAHASDA) is simply unacceptable. The no-increase $600 million request addresses neither the actual need for housing in Indian Country, nor the costs of transition to a new program.

To illustrate the need of housing in Indian Country, we need look no further than the Pueblo of Zuni in northern New Mexico. Three years ago, the Zuni Housing Authority compiled a waiting list of over 200 families seeking housing assistance. The survey found that, on Zuni lands, two to three families are living together in each home. In many cases, the houses are not equipped with electricity or running water. In one case, a family of five was found to be living in a one-room cook house no bigger than many people's backyard toolsheds.

In southern New Mexico, the Mescalero Housing Authority also has compiled a waiting list of over 200 families. Overcrowding is even worse here, with four families living together per house. In addition to the obvious lack of available housing, Mescalero has also a severe problem with its 30-year-old water delivery and sanitation systems. These problems range from low water pressure to poor water quality, both of which are resulting in increased health risks. Estimates to repair the system range from $10 to $20 million.

Another example of the housing problems faced by Indian tribes comes from the Pueblo of Tesuque. A recent survey found that the majority of available housing stock on Tesuque lands was over fifteen years old and in poor condition. Respondents listed a range of problems including overcrowding, erosion, poor plumbing, lack of heating, leaky roofs, drafty windows, and even a lack of doors.

In Arizona, the Yavapai-Apache Nation has a current waiting list for housing with over 100 names on it; however, construction is at a standstill due to a lack of funds. To make matters worse, most current housing units are over twenty years old and in desperate need of repair. A large number of survey respondents cited the urgent need for roof, electrical, and plumbing repairs. Overcrowding is another huge concern, with as many as four to six families living together under the same roof.

NAHASDA was passed last year to streamline Indian housing programs and provide Indian tribes with greater flexibility and autonomy to address their particular needs. It replaced a number of programs dating back to the 1960's with the new Indian Housing Block Grant program.

Under the previous programs, tribes were prevented by HUD from administering their own housing programs. Instead HUD placed this responsibility with Indian Housing Authorities, which it insisted be created as separate entities. Now, NAHASDA returns the responsibility for housing to tribes, which usually have no experience in administering housing programs, developing and maintaining projects, collecting rents, handling evictions, and so on.

To assume the responsibility without the benefits of expertise or experience is devastating. Without sufficient training or transition funding, it is near impossible. To make matters even worse, tribes must familiarize themselves with a whole new set of rules by July 1, 1998, when their Indian Housing Plans are due. Indian tribes are being forced to make the transition to a new program, with new people, and a brand new set of rules, all without adequate training or assistance and under a fast-approaching deadline. This scenario is not designed to bring success, only more heartburn, struggles, and failures.

The Administration's request does not acknowledge the time and cost it will take many tribes to integrate their new housing responsibilities into their community master plans. Nor does it account for the cost of developing new comprehensive plans, writing reports, and conducting impact analyses. Nor does it provide sufficient money for tribes to conduct environmental reviews required now by the regulations. Tribes are being forced to make a major transition without adequate funds to pull it off. It is unfair, it is unreasonable, and it is a recipe for disaster.

Given this situation, we believe it is of paramount importance that you provide the full authorization of $850 million for the Indian Housing Block Grant in the fiscal year 1999 appropriation. Such a level is critical to the success of the new program and to the confidence of Indian tribes as they begin this new test in self-governing.

To facilitate the transition and maximize the chance of success, we also request that the Title VI and Section 184 loan guarantee programs be funded at $10 million each. These programs complement the Indian Housing Block Grant and provide tribes with the leverage needed to encourage private sector participation.

Most tribal leaders are extremely grateful for the autonomy that NAHASDA will bring in the future. All they are asking is that the new authority be backed up with the resources necessary to carry it out.

PREPARED STATEMENT OF THEODORE PASKINSKI, PRESIDENT, ST. JOSEPH'S HOSPITAL HEALTH CENTER

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to present this testimony. I am Theodore Pasinski, President of St. Joseph's Hospital Health Center in downtown Syracuse, New York. St. Joseph's is a non-profit 431-bed hospital and health care network providing services to Onandaga County and to patients from 15 surrounding counties. St. Joseph's is best known for its ranking as the #1 hospital in New York State for open heart surgery in terms of lowest overall mortality rate. We are very proud of this ranking, which we have held for two consecutive years. What many people do not know is that we are also the largest hemodialysis center outside metropolitan New York. My statement today is focused on these two areas of expertise at St. Joseph's and how we plan to initiate a chronic disease management model that will benefit our current patients with heart and kidney disease and enhance the quality of life for at-risk patients in the region. We see this initiative as one with not only health enhancement benefits but also with significant positive economic implications for the community and the region. I will explain this dynamic in general terms for the Subcommittee.

St. Joseph's provides over $7 million in bad debt and charity care to our service region. This comes to about 4 percent of our operating budget. This number has steadily risen over the years and we feel it will continue to do so unless some dramatic steps are taken. In order to increase access to patients who are underserved and at-risk for disease, we have implemented a program of "patient-centered care." We believe we achieved our #1 ranking for cardiac care through this process, which employs a secondary prevention model for disease management. By applying a multidisciplinary team approach to heart disease and preparing patients before surgery and rehabilitating them after, we have reduced mortality rates as well as the number of second hospitalizations. We have done this to improve the overall health of an underserved and underinsured patient base, but also for practical financial reasons. While our rehabilitation and education programs for our cardiac patients are largely unreimbursed, we are rewarded by having to perform less expensive charity care on patients who would typically end up back in the hospital without disease management.

Recognizing that early assessment is important to reducing the number of expensive treatments required later in life, St. Joseph's instituted a Wellness Place at a local mall so that people could stop in at their convenience. The Wellness Place provides free, general health screenings such as blood pressure readings, cardiac and diabetes risk assessment, counseling and patient education and seminars. Last year, approximately 15,000 people used the Wellness Place. Nearly 1,000 of these people were determined to be at risk for heart disease, diabetes, or vascular problems. These individuals were offered follow-up services intended to change lifestyle, such as nutritional counseling, smoking cessation, exercise programs and other similar regimens. They were also offered a choice of primary care physician if none was identified. This is all done at considerable unreimbursed expense to St. Joseph's but with the knowledge that a great deal of money will be saved in the long run—for the patient, the Medicare system and the hospital. The most dramatic economic implications I mentioned are encompassed within this concept—but not all. At risk patients are working people who may lose jobs if their disease progresses. It is important to realize, however, that patients with diagnosed diseases or who have congestive heart failure, may still work and lead productive lives if an effective disease management program is initiated at the earliest stage possible. The other economic benefits come in the form of the support required for this program. I will detail those later in this statement.

Assessment is the first line of defense in chronic disease management; but, there are many other factors involved after this step is taken. A program for management of disease must adequately educate patients and then foster a sense of individual responsibility for the importance of following prescribed regimens. This takes a great deal of initial monitoring and time spent with patients by telephone, at community health centers, and in the home. This also requires coordinated community participation by physicians, nurses, pharmacists, physical therapists, educators, behavioral specialists and even employers.

Diabetes, leading to kidney disease and kidney failure, is the most expensive disease in the country. The second most expensive, and #1 admitting diagnosis for Medicare, is congestive heart failure. The U.S. spends more than $7 billion annually in Medicare dollars for these diseases. The clinical relationship between chronic kidney failure and heart disease (e.g., high blood pressure) requires similar early intervention techniques as well as later management, treatment, and rehabilitation. Utilizing resources already developed and in place for our cardiac rehabilitation program, St. Joseph's is proposing to further develop a chronic disease management program focused on hemodialysis. Combining resources in this way will be cost effective and has the potential to radically change the management of kidney disease.

The specific objectives of the program will begin with early identification. Timely referrals to a nephrologist can be improved so that more aggressive treatment can be initiated to prolong kidney function and allow better preparation of the patient for dialysis. Second, we will identify, investigate, evaluate, and implement technology that will promote in-center self care and home hemodialysis modalities. The Aksys Corporation has developed a product that has the potential of achieving this objective. Third, we will utilize the St. Joseph's Cardiac Rehabilitation Model for the renal patient. This model will emphasize education and exercise with the goal of improving the percentage of patients that stay employed, reduce frequency and length of hospitalizations, and improve patient acceptance of and control over disease processes. Finally, we will apply our disease management techniques to our overall goal of reducing the percentage of candidates for kidney transplantation. The ultimate goal of the renal patient and the health care industry is to have renal patients lead a "normal" life. Currently, kidney transplantation is the modality that is most associated with that goal.

Our history of service and specialization in the areas of cardiac and kidney disease has proven that there is a demonstrable need for a chronic disease demonstration in these areas for the Central New York region. The demonstration will involve relationships and initiatives in Dialysis, Cardiac Care, Home Care, and Wellness. What we lack at this point, is a facility that can be shared by both cardiac and dialysis patients. Our current dialysis facility, the largest outside the New York Metropolitan area, is woefully inadequate in every way. The facility was originally built as a modular, temporary, unit over 20 years ago. We now treat our overload of patients in the hallways and have legitimate safety concerns that come with overcrowding and questions as to the future structural integrity of the plant itself. We have not replaced this facility for financial reasons but, fortunately, have been able to treat patients satisfactorily. We have three satellite clinics in the region that are also operating at capacity. Our goal is to implement our demonstration program in an on-campus facility that will provide the space needed for dialysis, exercise facilities, classrooms, meeting rooms, examination rooms, and nurse and allied professional training space. Training of personnel is an important aspect of implementing an innovative chronic disease model.

In terms of economic development for the region, we believe that keeping our patients healthy and productive will have the most dramatic impact on the economy albeit in the long term. For the shorter term, we believe the training programs that we currently provide and will expand in areas such as home care, nursing, rehabilitation specialists, and counseling, to name a few, will bring employment opportunities to people in and around Syracuse. As we expand our efforts, we will likely train people outside the immediate area to be able to serve the outlying areas where our satellite clinics are and in homes in more remote locations. The facility we envision will also provide many construction jobs over the next couple of years. The two story facility, equipment and program operation will cost approximately $12.5 million. St. Joseph's is requesting Federal partnership grant funding of $5.1 million that will also cover start-up operating costs. We estimate, based on our current services, that our operating budget will exceed $5.5 million per year. St. Joseph's will provide, through private sources, the remainder of the estimated total.

We recognize the magnitude of this request but believe wholeheartedly that this facility, and the implementation of our chronic disease management model will repay this initial investment many times over in terms of Medicare savings and in terms of providing a national model for replication across the country.

Thank you.

PREPARED STATEMENT OF REV. ALOYSIUS KELLEY, S.J., PRESIDENT, FAIRFIELD UNIVERSITY

Mr. Chairman, thank you for providing the opportunity to submit testimony concerning an important initiative Fairfield University is undertaking to ensure the progress of information technology education and training in several educationally underserved cities in the State of Connecticut. The need has never been greater for technology resources and training to be accessible to broad audiences in local communities, school districts, and the workforce in Connecticut. The acquisition of current technological skills is essential to ensure that Americans are equipped to compete in a global marketplace. School children require as broad a foundation in the uses of technology for research and learning as do adults attempting to re-enter the workforce or retrain for new positions. A centralized Information Technology Center at Fairfield University with state-of-the-art equipment, trained personnel, and a broad range of technological resources and services can meet the needs of this wide audience. The potential for this Center to have a significant impact on the State of Connecticut is further enhanced by the extensive educational expertise of the faculty. The three distinct audiences that are faced with the challenges associated with constant advances in technology are: Business and industry; primary and secondary education; and higher education.

Technology advances have resulted in an ever-changing workplace environment. As Connecticut seeks to address the educational needs of its citizens and meet the workforce needs of employers, it must develop strategies for capitalizing on the resources and strengths of its higher education system. Some of the challenges facing business and industry include:

—*Increases in Information Technology Careers*.—The Labor Department estimates that an average of 95,000 new computer scientists, systems analysts, and programmers will be needed every year from now until 2005. The Department of Commerce estimates that technology represents 50 percent of the nation's future economic growth.

—*Changes in the Workplace*.—Recent State cutbacks in banking, insurance, and manufacturing have produced alarming unemployment rates among highly trained workers. Lower paying jobs in other industries sectors have replaced these work opportunities.

—*Advanced Technology Skills Requirements*.—Connecticut's workforce training needs center around adult students who must modernize their skills in order to be competitive in the contemporary workplace.

Partnerships between higher education and primary/secondary education can expand resources, create needed experiences and exposure for students, and help increase academic motivation and commitment. Some of the challenges facing primary and secondary education include:

—*Improving Performance Standards*.—A recent study published by the National Assessment of Educational Progress indicated that more than half of urban public school students, many from areas similar to those surrounding Fairfield, scored far below national averages in reading, math, and, science.

—*Increasing Career Development Services*.—Federally funded movements like School-to-Work were founded to help all students improve and excel in basic and advanced educational areas, while simultaneously preparing them to enter the modern-day workforce.

—*Providing Advanced Technology Skills Training*.—The computer industry has initiated outreach efforts, putting equipment and software into schools to train students in information technology, helping to increase skills and combat the shortage of high tech employees.

Post-secondary education must research and develop technology based training modules for students and faculty, design curriculum that capitalizes on the use of technology in the learning process, and develop productivity assessment tools to measure results. Some of the challenges facing higher education include:

—*Assessing the Impact of Technology*.—A widespread awareness exists throughout the educational community that technology requires a thoughtful and systemic assessment so that its full potential can be realized within the learning experience.

—*Training Students and Faculty in the New Technology*.—Developing technology-based training modules for students and faculty that ensure maximum productivity.

—*Designing Technology-Based Curriculum*.—The need to develop instructional innovations that capitalize on the use of multimedia technology and the World Wide Web.

A Proposed Response to the Challenge: An Information Technology Center at Fairfield

Telecommunications technology is the vehicle through which institutions of higher education can provide broader educational access to the community. Students, teachers, and the unemployed are the principal potential beneficiaries of on-line training sites throughout the community. Connecticut's Fairfield University possesses a singular, award-winning resource that positions it well to make an important contribution in this regard. An already established state-of-the-art telecommunications infrastructure consists of a fiber optic network that links every computer in every classroom, faculty office and student dorm room to the information super highway. In total, 23 campus buildings share voice, video, and data services. The backbone portion of this system was recently upgraded to 155 Mbits from 10 Mbits. In addition, the University operates satellite dishes for program downlinking and teleconferencing and a campus television network with 50 channels, eight of which are programmed exclusively by the University. The University won a national award for its technology infrastructure.

Fairfield University has recently committed to a major expansion and renovation of its Library with the express purpose of establishing an Information Technology Center for the 21st century. This facility will support both the traditional functions of the University Library as well as serve as the center for the digital library of the future. In the same vein, the University has recently made commitments to an expanded role for Academic Computing on campus, particularly in the areas of training and support. The convergence of computing, library, and information technology resources has been occurring with more and more frequency across the country. On university campuses, this trend, along with that of collaborative teaching and learning, is proceeding at a rapid pace. Recently, Fairfield University combined the Library and Academic Computing under a single administrative unit. The continued interaction of technology with media, libraries, and instruction suggests that the centralization of these resources can provide benefits both to the University and to the community.

Building upon the existing telecommunications infrastructure, Fairfield University can provide expanded services to the community. Utilizing a distance learning model, training opportunities can be developed serving the school systems, State agencies, and businesses. Proposed new training opportunities can be designed to increase skills thereby improving workforce readiness for emerging employment in the State.

The Center will offer:

A Facility With: Satellite up-link and redistribution; Electronic classrooms; Multimedia rooms; An auditorium; and Computing and projection equipment.

Technology Resources: Electronic information databases; and A digital library collection for community and business use.

Technology Services: Training and Retraining; and Distance Education.

Technology Research and Development: Research in collaborative teaching and learning; and Technology based curriculum design consulting.

Fairfield University's telecommunications capability is currently one of the best in the United States and can, with minimum reprogramming, be upgraded to provide comprehensive educational resources to nearby Bridgeport, Norwalk, Stamford, and other communities. The construction of the Information Technology Center, as part of an expanded library and information center, is needed in order to provide a centrally located facility to coordinate current outreach efforts, and to develop new ones which maximize the use of technology and available resources. The proposed Information Technology Center will become a hub for collaboration with all facets of the community.

A wide variety of partnerships will be forged within the University and with the community in an effort to capitalize on the resources available in the Information Technology Center. A Technology Learning Team will be created at Fairfield comprised of a broad range of partners including University administrators, faculty, businesses, primary and secondary education representatives, community agencies, etc. The expertise of this team will be utilized to build new partnerships and expand existing ones.

Fairfield's Technology Learning Team will initially pursue the following projects to benefit the students and faculty at Fairfield. The Team will:

—Design and develop a productivity assessment model that will measure the impact of technology uses in the classroom and the learning process.

—Create and test a technology-training module that instructs faculty in the potential uses of various information technologies for teaching and learning.
—Create and test a student technology training module designed to enrich the students' knowledge about the uses of technology and to enhance their skills in the identification, evaluation, and effective retrieval of information from a wide range of print and electronic resources.
—Assist faculty in the development of technology-assisted curriculum that supports all aspects of their coursework.
—Train a broad range of faculty and students, creating a cadre of trainers that will expand the University's technology-knowledgeable human resources.

Fairfield's Technology Learning Team will build partnerships with the corporate community in an effort to meet a variety of training and education needs identified by the industry partners. These collaborations will:

—Develop instructional models that are tailored for corporate training and retraining programs.
—Provide support for Fairfield University's Center for Global Competitiveness by teaching corporate clients about knowledge management and competitive intelligence.
—Train corporate managers and graduate students in the evaluation and retrieval of electronic information resources.

Fairfield's Technology Learning Team will work with representatives from primary and secondary education and the existing outreach programs in the various Schools within the University. Collaborations will be designed that address the emerging needs at the primary and secondary level as they relate to technology and career development. The Information Technology Center at Fairfield will:

—Provide a state-of-the-art facility that will be open to the community for "train-the-trainer" sessions in various aspects of technology utilization.
—Introduce primary and secondary educators and administrators to the cost-effective utilization of the latest information technologies.
—Provide a forum for direct consultation with teachers and administrators in the effective design of technology-based curriculum models.

Fairfield University's telecommunication capability is one of the best in the country. The construction of an Information Technology Center will help to coordinate and expand existing outreach efforts as well as provide the foundation for new collaborations. Using expanded technology resources, faculty will be able to design and develop new curricula. The current technology resources at Fairfield, combined with the existing expertise of faculty and administrators, represents a strong foundation upon which this Information Technology Center will build. This proposal seeks a federal partnership grant in the amount of $5,525,000 to assist in the establishment of the Center at Fairfield University. A Federal partnership demonstration at Fairfield University has the potential of meeting the economic development needs of Connecticut's schools and businesses as well as the broader community throughout the State.

This request for $5,525,000 will provide part of the financial resources to upgrade, expand, and renovate a large portion of the library structure and establish the proposed Information Technology Center for the State of Connecticut. The total project budget is $18,504,785 and will construct and equip 14,000 square feet of new space. The estimated cost for the entire Library expansion is $18,504,785. Fairfield University will provide the balance of this project through University resources and gifts.

We believe a Federal partnership demonstration at Fairfield University has the potential to meet the economic development needs of Connecticut's schools and businesses as well as the broader community throughout the State. We appreciate the Subcommittee's attention and consideration of our proposal for such a partnership opportunity.

Thank you.

PREPARED STATEMENT OF PETER M.P. NORRIS, PRESIDENT, SPIN–2

Mr. Chairman, SPIN–2 appreciates the opportunity to submit this statement for the hearing record of outside witness views on issues concerning the fiscal year 1999 Appropriations Act for VA/HUD and Independent Agencies.

SPIN–2 is a joint venture between Aerial Images, Inc., of Raleigh, North Carolina and SOVINFORMSPUTNIK, the commercial division of the Russian Space Agency. The goal is to commercialize high resolution, 2-meter remote sensing imaging from Russian mapping satellites. After a successful launch and recovery within the past three weeks, the data is expected to become available within the next several weeks. At two meter resolution, SPIN–2 data is 250 percent higher resolution than pre-

viously available through remote sensing channels. Ten meter resolution stereographic SPIN–2 data is used to produce the most accurate digital elevation models in the world made from satellite data.

The focus of my remarks concerns NASA's purchase of available remote sensing imagery to support the commercial industry. The NASA Justifications discuss the planned launch of LANDSAT-7 for December, 1998. A recent NASA press release indicates that the launch has been delayed. The data from that satellite will not be available until sometime next year. SPIN–2 will have data earlier and at a higher resolution than that of LANDSAT-7.

In the commercialization of remote sensing data, the archives of USGS will be structured to accommodate and reconcile data from a number of sources. SPIN–2 desires that our data be among that collection.

A number of government agencies are already purchasing our data, and we have a sizable order list for the new data becoming available shortly. We are on the screen for the industry, and would favor the NASA purchase of a diverse data set for its commercial acquisition exercise this and next fiscal years.

SPIN–2 data is currently being utilized by the private sector, international development organizations, and U.S. federal, state and local agencies for:

(1) Analyses of environmentally polluted areas by comparing old and new 2-meter resolution data (Historical 2-meter resolution data is compared with current photography to understand the past and present appearance of a number of polluted sites around the U.S.);

(2) Detailed mapping of government facilities (A number of locations of US. government facilities at foreign locations and in the U.S. are being mapped by U.S. government agencies using 2-meter resolution data.);

(3) Preparation of detailed digital elevation models (These digital elevation models are composed of height measurements at 10 meter intervals allowing for production of topographic maps with contour lines at 10 meter intervals. The elevation information is also being used by the cellular telephone industry to assist in radio frequency modeling by identifying locations that obstruct radio transmissions.);

(4) Preparation of detailed GIS databases for E–911 activities (2-meter resolution, ortho-rectified data allows for precise location of individual dwellings for assignment of discrete addresses utilized by the enhance emergency dispatching system.);

(5) Urban planning (The center lines of roads and the outlines of city structures are easily delineated using 2-meter data. These features are essential components of GIS systems used by urban planners.);

(6) Monitoring of crop cultivation (Field boundaries of cultivated areas are easily, and accurately delineated using 2-meter data. This information is used for increasing the accuracy of crop yield estimation.);

(7) Cadastral map planning (2-meter resolution data issued for production of preliminary land ownership maps in areas of the world where cadastral map technology is just being introduced. These preliminary maps serve as an interim database until refined, and more accurate maps can be compiled.);

(8) Serving as a base for delineation of utilities information such as electrical grid layout for cities; and

(9) Production of 1:50,000 scale topographic maps (The satellite system that acquires 2-meter resolution and 10-meter resolution imagery was originally designed specifically for the production of 1:50,000 scale maps.).

Mr. Chairman, thank you for this opportunity to present this statement for inclusion in the outside witness hearing volume. We would be pleased to answer any questions you or the staff might have.

PREPARED STATEMENT OF MARY ANN KLEINE, DIRECTOR OF ADMINISTRATION, GOLD GATE UNIVERSITY

Mr. Chairman, members of the Subcommittee, I thank you for the opportunity to submit this statement on behalf of Golden Gate University and its Agriculture Business Resource Center located in Monterey, California. The Agriculture Business Resource Center is part of the Monterey campus of Golden Gate University, and has been in existence for twenty-six years.

Although degree programs are, and have been, the traditional focus of Golden Gate, the Monterey campus has significantly broadened its focus to include training programs which are targeted at specific industries. Most notable among these programs is one oriented toward the agriculture industry, created in response to the demands of various growers, processors and shippers which are part of California's $22 billion per year agriculture industry.

Unlike many industries, the agriculture industry has traditionally been underrepresented in training programs except for ad-hoc workshops. In addition, the industry has an unusually inflexible schedule which necessitates innovative program design and delivery. For example, many Salinas Valley growers and processors move their operations and employees to Yuma, Arizona in the winter to ensure year-round production. Golden Gate has responded by transporting instructors to the Yuma sites so that employees can be trained without interruption to production cycles.

Mr. Chairman, this subcommittee is exceedingly familiar with the importance of the agriculture industry to the U.S. economy, and the positive trade balances the industry has produced over the years. California has played a key role within the industry, leading all states in the production of more than 75 crop and livestock commodities. In fact, California's agriculture industry produces a total of 250 different crop and livestock commodities which generate some $22 billion in direct production, and another $70 billion in related activity. In 1994, the state produced exports of $12 billion which represented 15 percent of all U.S. agriculture exports. That trend continues today as exports are holding to record proportions.

The response to the Golden Gate Agriculture Business Resource Center has been overwhelming. In large part, this response is driven by the export potential for expanding the sales of California agriculture products into existing and developing markets overseas. For example, the Pacific rim countries continue to provide expanding market opportunities for California agriculture products. Additionally, the traditional European markets have further opened to U.S. products, as have the components of the former Soviet bloc. In the case of these "new republics," shipments of fresh products and seeds are increasing at a dramatic pace.

In the domestic U.S. market, consumer tastes have changed as people have become more health-conscious and demanded more fresh vegetables and fruits in their diets. In addition, so-called "convenience" items continue to be produced on a broader scale to accommodate the needs of middle class families where two-earner households are prevalent.

Each of these market demands—rising market expectations in other countries, domestic expectations of more fresh vegetables and more convenience foods—are welcomed in the grower, processing and shipper communities in California. But those demands which come to the growing regions force changes and new needs within the industry.

Perhaps the greatest general need which accompanies these growing market demands is the requirement for companies to have a skilled, permanent, year-round workforce so as to increase job retention. This way, all growers, processors and shippers will be better able to meet growing domestic and export demands. At the same time, from the employee perspective, training provides employees with enhanced skills and knowledge levels which, in turn, allow them to advance within their companies.

The need for a skilled, permanent and year-round workforce is very important for companies to remain competitive in an industry which is being driven in many new directions. As you know, for example, foreign competition is always a threat due, in large part, to lower operating costs. Nevertheless, Monterey County, California, as an example, has been able to compete with Mexico and Latin America in the fresh fruit and vegetable markets as these countries have not been able to distribute fresh value-added products effectively in the U.S. Rather, the value-added products exported to the U.S. from these areas remain canned and frozen.

A large part of the success in the case noted above is rooted in the development and adoption of new technologies which allow for light processing and packaging of vegetables. This facilitates the ability of the Monterey County growers and processors to better compete with lower cost rivals. To remain competitive, however, the various technologies must be continually updated and adapted so that cost-saving production processes are enhanced.

An excellent example of the value of enhanced production can be found in the value-added sector of the agriculture industry. This sector, which came into existence in the 1960's, is now one of the strongest segments in California's agriculture industry in general, and that of Monterey County in particular. Over the years, since its inception, this sector has been enhanced in great leaps.

The highly specialized, value-added sector requires in-house company laboratories, research and development staff and equipment, the latest automated packaging equipment, sophisticated and modern facilities and a highly skilled workforce. This means that agriculture companies must train and retrain employees to meet the challenges of new and expanding technology bases.

It is the need for increased skill levels which has motivated the various companies in the Monterey County agriculture industry to seek ways to develop employee skills on a continuing basis. As mentioned earlier, the companies need a skilled, year-

round and permanent workforce to meet market demands. In providing opportunities for employees to enhance their skills, the company ensures continuity of its workforce because employees can be promoted from within.

The Golden Gate Agriculture Business Resource Center has designed and is carrying out a broad-scope program which addresses the needs of the agriculture companies and employees in the Monterey County growing regions. With its high-quality, flexible approach, the Center's programs cover all levels of employees in a way which does not interfere with production schedules of the individual companies.

Golden Gate implements its program through various customized curricula designed to address the training needs of individual companies. Companies benefit from employees who are trained in the latest production techniques, product distribution methods, computer technology, refrigeration engineering and a range of other subject areas which are important to the agriculture industry. The employees benefit from programs carried out at work sites which eliminates their having to take time off to enroll in traditional academic programs.

The range of the Agriculture Center program crosses all skill levels, allowing for workers with low levels of education to be trained in ways which facilitate advancement. It is not uncommon to see lesser-educated workers who have moved to supervisory positions from jobs in the growing fields. The program also allows for the identification of people coming out of the welfare system who are potentially suited for agriculture industry employment. If, for example, a company has a need for entry-level workers, the Golden Gate Center will design a regimen to identify and train such personnel so that they are in a position to fit into the company system.

A large portion of the success of the Golden Gate program is based on a clearinghouse system which monitors the educational and training needs of the agriculture industry, particularly in the Monterey County area. Those needs are translated into high quality training programs which utilize state-of-the-art methods and technology for delivery. In this sense, the Agriculture Business Resource Center is part of a long-range, comprehensive vision to provide skills necessary for employees seeking job advancement, displaced workers who need marketable skills and young people looking for alternatives to traditional college degrees. In each case, the very important agriculture sector of California's economy will benefit, particularly that portion of the industry in the Monterey County growing regions.

Mr. Chairman, as the demands for diversified training on the part of the Central Valley agriculture industry have grown, Golden Gate has adapted and expanded its programs accordingly. As part of the evolution, Golden Gate has dedicated two buildings, located at Fort Ord, California, which were acquired through base closure and re-use development activities.

The buildings and the surrounding area are in relatively good condition though in need of renovation. Golden Gate's plan is to locate the Agriculture Business Resource Center in these two buildings, given their proximity to the Central Valley California growing regions. From this headquarters site, the entire area can be serviced through mobile classrooms, distance learning and on-site training. Further, the site will allow for additional program development in the future. The total cost of the entire project is $2 million which includes building renovation and internal resource development. Golden Gate will operate the Center with its own resources.

Mr. Chairman, California is the world's sixth largest exporter of agricultural products. For each $1 billion in export sales, nearly 30,000 jobs are created. Monterey County is the top vegetable producing county in the nation, with the agriculture industry employing 25 percent of the county labor force. All of this is to say that there is significant opportunity for the California agriculture industry to expand and further enhance its role in the U.S. economy.

The Golden Gate Agriculture Business Resource Center, based on existing industry needs and demands, can be a catalyst to move this growth forward. In so doing, we will strengthen the state and local tax and employment bases many times over the level of this modest grant assistance request. I ask that you consider this request as one that is good for the U.S. agriculture industry, and can be a model for other states in the future.

Thank you.

PREPARED STATEMENT OF SUNIA ZATERMAN, EXECUTIVE DIRECTOR, COUNCIL OF LARGE PUBLIC HOUSING AUTHORITIES (CLPHA)

Mr. Chairman: On behalf of the Council of Large Public Housing Authorities (CLPHA), thank you for inviting us to testify before the subcommittee. As you know, CLPHA's membership manages over 40 percent of the country's 1.3 million public

housing units, has assets ranging from 1,250 to 160,000 units, and administers a significant share of the section 8 tenant-based assistance program.

We greatly appreciated your presence and stirring comments at a recent CLPHA members' meeting. Unfortunately, your prediction that 1998 would be "the year of public housing" is having trouble materializing. Instead, we seem headed for the "year of roads and lots of them" and more tax cuts. Having listened to "balanced budget" speeches for some years as our funds decreased, we are indeed now confused as to how the budget caps, the ISTEA bill, and tax cuts can all be honored with anything left for domestic discretionary programs, such as public housing. Assisted housing seems headed downhill fast:

First, housing for poor people has again been asked to pay for military and weather emergencies—in vast disproportion to other accounts—with the House's rescission of a whopping $2.2 billion slated for tenant-based assistance, heretofore very broadly supported housing aid. And this comes at a time when, according to Secretary Cuomo's testimony before this subcommittee, the country has an unprecedented net loss of affordable housing.

Second, Congress has failed to adopt the deregulatory changes that have been pending, in various forms, since the end of the 104th Congress. We are grateful for the help that you and Senator Bond have given us on a year-to-year basis with the "extenders", but many PHA's are hesitant to gamble on the permanence of the more far-reaching and sensitive changes, such as replacing the federal preferences. The public housing program remains much the same over-regulated program that we all lament—several decades of HUD regulations and Congressional amendments piled sky-high.

Third, HUD's request for operating subsidy is short $338 million and the requested level for modernization funds virtually leaves the backlogged needs untouched. As things are going, our initial estimate shows that losses in the operating support will approach $5 billion between fiscal year 1993 and fiscal year 2001. For rehabilitation, we have lost $1.2 billion each year since fiscal year 1995, when our funds were rescinded to pay for the weather disasters and terrorism of the time. It appears that Congress is repealing sub silencio its sixty-year promise of decent shelter for all Americans.

Who are these Americans that have provoked such fiscal punishment? Mainly the 3.4 million poor households in public housing: the old (44 percent of our units), the disabled (15 percent of admitted households), and the hundreds of thousands of children and their parents who make up the balance. In addition, there are 5.3 million families in HUD's category of worst-case housing: overpaying for rent or living in substandard housing or both. Perhaps representative of it all is the Secretary's comment at your hearing that we are making history by not replacing as many affordable housing units as we are losing.

Our good news: (1) HOPE VI, although complicated, is moving forward successfully on many fronts: rejuvenating inner city neighborhoods, creating more socially viable communities, forging PHA partnerships with nonprofits like the Enterprise Foundation and LISC, and with entrepreneurial developers and architects. Just around the corner from where we now sit, the Ellen Wilson Redevelopment will show what can be done. Not too many miles from Mr. Neuman's district, Milwaukee's Hillside has transformed a pariah project into a neighborhood centerpiece. In Mr. Freylinghausen's State of New Jersey, Newark has replaced unmanageable family highrises with attractive modest townhouses. Mr. Chairman, we appreciated the visit by subcommittee staff to the Park du Valle development in Louisville, Kentucky and hope their report was reassuring. (2) Of CLPHA's 60+ large housing authority members, only two remain "troubled": Chicago and St. Louis, both recovering with experienced executive directors.

Congress asked us to house the poorest and we are—the average PHA household income is $6,500 per year—but now we are enduring debilitating cuts. We gave the quid: serving the poorest, but are not receiving the quo: financial support. Public housing has become a major unfunded mandate and the residents and those on waiting lists are the sufferers. In fiscal year 1999, we seek the following, which we believe to be reasonable requests, especially since we lost so much in the deficit era: Operating Subsidies: $3.156 billion; Modernization/Capital: $3.7 billion; HOPE VI Revitalization: $550 million; Drug Elimination Grants: $350 million; Supportive Services: $75 million.

Operating subsidies.—HUD incorrectly claims that it is fully funding the Performance Funding System (PFS). Its request for $2.8 billion is over $300 million shy of the correct figure of $3.156; its claim of an additional $113 million in carryovers is an unfulfilled assumption. Each year, HUD operating subsidy requests understate PFS requirements by relying on annual rosy scenarios which are never corrected

when the scenario turns un-rosy.[1] This time the Department and OMB have overestimated the number of units being demolished, thus reducing subsidy needs. After a thorough review with our members, who are busily removing obsolete projects, we are convinced that HUD has overestimated demolitions by at least 10,000 units this year, thus understating subsidy by more than $20 million for that alone. Second, HUD has assumed a 7 percent increase in tenant income over the next two years—an extraordinary leap unsubstantiated by any experience the PHA's are having. HUD banks on the current good times, but the current economy does not affect: (1) the 44 percent of our households who are elderly; (2) nor our many welfare families struggling with welfare reform—some dropping out of welfare-to-work and others dropped out by sanctions who now look to minimum rent. These are hardly the bases for a jump in rental revenue. Our estimate is a 3 percent increase. In dollars, the difference between our estimate and HUD's is $80+ million in needed subsidy.

Modernization/capital.—HUD's own studies, the National Commission on Severely Distressed Public Housing, and now OMB agree that $2.1 billion is needed annually just to meet normal wear and tear costs in the public housing stock. HUD's request of $2.5 billion is barely above these ongoing maintenance needs, and in the words of the OMB Passback, "will allow the Department to tackle [only] a small part of the enormous capital needs backlog." Need I say more? The objective analyses conclude that an annual level of $4 billion to $4.5 billion is needed to bring the stock up to standard within a decade. We were on track to that goal before the fiscal year 1995 rescissions. The pre-cut appropriation of $3.7 billion, coupled with the $550 million for revitalization of our HOPE VI sites, had us headed to decent shelter for all our tenants within the foreseeable future. We understood budget constraints in a deficit situation, although we never knew why poor people's needs had to be forgone so disproportionately. But the needs for modernization didn't change after the rescission. We hope that you will put us back on the right track by raising our modernization level at least to $3 billion, if not more.

The funds appear to be in the subcommittee's hands. The Secretary testified to $690 million recoverable from the section 8 mod rehab program; other sources say that figure may top a billion dollars. This is surely enough to handle the elderly housing shortfall and to step up modernization efforts. PHA's look forward to the reforms that will enable them to seek a broader social and economic mix and to become more self-sustaining, but it can't market a substandard housing stock.

Modernization is a program that also effectively and efficiently addresses the Secretary's aim to enhance employment in the inner cities. Nothing is more effective than construction in providing jobs to persons of very low and modest incomes. The multiplier effect in the market place is that $1 billion in construction creates at least 18,000 jobs in direct construction and production of the broad range of materials, appliances and equipment that comprehensive rehabilitation entails. Under section 3 of the Housing and Urban Development Act of 1968, as amended, low income families are to be hired in carrying out such HUD grants. Moreover, the construction-related unions are reaching out to public housing and other inner city persons to bring them into the work force. Unlike the new, vaguely-described programs proposed by HUD, modernization is a sure thing and the PHA's can, in most cases, deploy the money quickly to private contractors. It is a "win" all around: better housing, a protected property investment, and jobs where they are needed most.

We also request that your bill once again allow PHA's to use up to 10 percent of any year's modernization funds for operating purposes. Such flexibility is very helpful.

HOPE VI.—We believe that this program is fulfilling its goals and we greatly appreciate the Chairman's support. This is a complicated, bold effort and you have been patient as HUD and the PHA's have ventured forward. Dreadfully overbuilt, obsolete projects are being removed across the country—these well-documented caricatures of public housing are being replaced with sensible apartments and townhouses. Newark is a gleaming example—13 highrise buildings have come down in the last two years and hundreds of townhouses will be built in their place. We are also increasing tenant satisfaction and income diversity: Milwaukee's Hillside has become a prized development with the number of working households increasing from 15 percent in 1993 to 55 percent in 1997; DC's Ellen Wilson redevelopment is a neighborhood nonprofit/entrepreneur joint venture, combining for-sale housing with a limited equity cooperative, a broad range of incomes, private management,

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[1] So bad has been this practice that the Housing Act was temporarily amended to make HUD calculate PFS "without adjustments for estimated or unrealized savings" (see section 9(c)(2)). In the deliberations over H.R. 2, amendments were sponsored by Messrs. Joseph Kennedy and Barney Frank to bar this practice. We urge the Committee to reinstate the cited Housing Act language, which—unlike HUD's practice—expired in fiscal year 1994.

and supportive services for the residents. These stories are duplicated in Atlanta, Baltimore, Louisville, and elsewhere. PHA's have made many partnerships with private developers and managers and, according to Deputy Assistant Secretary Bacon of HUD's HOPE VI office, have leveraged private investments in 90 percent of these undertakings through use of low income housing tax credits.

Beyond removing blight and improving housing opportunities, HOPE VI will be the catalyst for neighborhood renewal in many areas. It is an investment that will turn liabilities into assets. However, HUD's emerging total development cost policy flirts with ending this prospect—it is a pennywise pound foolish approach. CLPHA has given your staff an elaboration of our concerns and recommendations, which aim to carry out this subcommittee's history of pushing HUD to revitalize housing and neighborhoods, right up to last year's neighborhood initiative.

We support HUD's request for $550 million, but ask that you bar the use of these vital capital and social support funds for tenant-based relocations. Section 8 funds necessary for HOPE VI relocations were taken from the Department's allotment for various forms of relocation or FHA project support, until several years ago when Congress first allowed use of HOPE VI for relocation certificates, because HUD claimed it had mistakenly failed to request the section 8 setasides. HUD has converted that temporary relief into a permanent, sizeable, annual bite out of HOPE VI; it totaled $70 million in fiscal year 1997. This diversion undermines the result Congress seeks in transforming obsolete public housing and, in the process, will allow a backdoor creation of long-term section 8 obligations.

Section 8.—We are devastated that Congress would once again turn to housing assistance for the poor, to the tune of $2.2 billion, to pay for military operations, this time in Bosnia and Iraq, and for weather calamities. Patriotism and equity would say that if offsets are to be made, and we are among those that think them unnecessary, all should share. Please reconsider this action. Housing has given at both home and the office. In addition, please discontinue the 3-month delay for the reissuance of vouchers and certificates. The "savings" from a delay are no longer necessary, families are being denied needed shelter, and the scheme has high bureaucratic costs.

With respect to HUD's request for 100,000 vouchers, it is premature to comment until the issue of ending or replacing the $2.2 billion rescission is resolved. In all events, we recommend that the Committee first address the need to conserve what subsidized housing that exists: a proper operating subsidy and restored modernization funds. Of course, we all want to serve as many poor persons as funds permit.

Public Housing Drug Elimination Program.—No public housing-related program has been better received by PHA's and residents alike than PHDEP. PHA's are using drug elimination grants to successfully enhance police protection and address crime prevention in innovative ways through cooperation with residents and local officials, but more assistance is needed to build on these successes. PHDEP has not received a general funding increase in several years; CLPHA recommends $350 million for fiscal year 1999.

We also recommend that PHDEP funds, at least for large housing authorities, be distributed by formula to enable PHA's to plan long-range crime prevention strategies, recruit more effectively, and provide assurances of continued security. Large PHA's would accept a reduced per unit dollar grant in exchange for the predictability of a formula; the present competitive structure undermines sustained, effective program performance. As with modernization funding, use of a formula would therefore be more efficient than a competitive grant and would reduce staff burdens on HUD. It would also avoid the inexplicable failure of HUD to distribute the entire fiscal year 1998 appropriation, and we appreciated your questioning of HUD about that occurrence during these hearings.

Supportive services.—The supportive services earmark in CDBG has been a small program with significant positive results for the elderly and the disabled, particularly in "mixed population" settings, that is, where the elderly and nonelderly disabled share the same building. As this subcommittee recognized in both fiscal year 1997 and fiscal year 1998, service coordinators provide "tested and proven benefits" and are "an essential management tool in elderly housing" (see H. Rpt. 105–175 and H. Rpt. 104–628, respectively). Last year's setaside of $7 million for service coordinators and congregate housing services was an important first step in meeting the needs of our elderly population, which occupy more than 40 percent of the nation's public housing units, but more is needed. CLPHA urges that overall supportive services funding be increased to $75 million and that a proportionate 40 percent of that sum ($30 million) be directed exclusively for service coordinators for the elderly and mixed population buildings, and congregate housing services for the elderly. As the supportive services monies have also been helpful in training residents for moving

to work, the balance of the overall earmark should go to welfare-to-work programs for public housing families.

Deregulatory reforms.—As stated earlier, we continue to await the enactment of permanent, comprehensive deregulatory reforms; it has now been almost six years since the last major public housing bill. Despite the brevity of this year's legislative calendar, CLPHA remains cautiously optimistic that your colleagues on the authorizing committees will soon conference the pending reform bills, H.R. 2 and S. 462, because we cannot afford another year of disappointment. While we are very grateful for the reforms provided by the appropriations committees on an annual basis—the so-called "extenders"—most PHA's are unwilling to implement significant changes on a one-year lease. Given the proven uncertainty of the authorization process, we urge you to make permanent the essential reform provisions already contained in past appropriations bills, specifically: repeal of federal preferences and one-for-one replacements, the ability of PHA's to establish ceiling rents, minimum rents of up to $50 per month, and flexible modernization with the ability to use up to 10 percent of any year's modernization funds for operating purposes. We understand your discomfort in making permanent changes through an appropriations act, but the precedent exists with last year's market-to-market legislation. Furthermore, none of the "extender" provisions conflicts with the pending authorization bills, and all are desperately needed. Please help.

CONCLUSION

CLPHA believes that its foregoing recommendations are the minimum funding levels necessary for PHA's to fulfill their statutory obligations and to serve many of America's most vulnerable citizens. With adequate financial support and permanent programmatic reforms, we can still make 1998 "the year of public housing." Again, thank you for the opportunity to testify and your continued support.

PREPARED STATEMENT OF THE AMERICAN ASSOCIATION OF HOMES AND SERVICES FOR THE AGING

The American Association of Homes and Services for the Aging (AAHSA) is pleased to have this opportunity to present our comments on the fiscal year 1999 Administration budget request for the U.S. Department of Housing and Urban Development (HUD). AAHSA is the largest organization representing nonprofit sponsors of senior housing who own and manage over 300,000 units of market rate and federally assisted housing—including the largest number of sponsors of HUD Section 202 elderly housing facilities. We are especially interested in the affordable housing needs of older persons and the budget proposals regarding federally assisted housing that affect this special population. This committee has shown particular interest in ensuring that increasing numbers of elderly persons are appropriately housed in suitable, affordable, decent and safe housing.

Unlike many other private housing sponsors, as nonprofit sponsors of elderly housing, we respond to entirely different motivations in developing housing for the poor, the needy, and the frail elderly. Our motivation is born of mission not profit. As stated in our testimony to this committee last year, ours is a mission of helping those whose needs are the greatest and of striving to provide housing to all low-income elderly who need it. However, despite the best of intentions, it is still not enough. HUD's 1996 study on worst case housing needs shows that 1.2 million households are headed by an elderly person who spends more than 50 percent of their income on rent or lives in severely substandard housing. And, the recently released 1997 HUD study continues to show over 1.5 million poor elderly persons with unmet housing needs.

Because the Administration has proposed such sweeping changes in the Section 202 program this year, our testimony will predominantly focus on that program. But, in addition, AAHSA is concerned with funding for service coordinators, Section 202 conversion, and modernization and retrofit. The Section 202 Supportive Housing for the Elderly program is near and dear to us because it works, and it works well. However, we are faced with a triple threat from the Clinton Administration proposal that recommends a fundamental change in the program. We are pleased that during Secretary Cuomo's testimony before the committee, several committee members expressed their strong concern with, and opposition to these program changes.

However, the Administration proposal does serve the purpose of opening the debate over the program's future and structure. But, before we seriously consider changing the program: changing its funding structure, changing its delivery mechanism, changing its administration, changing the type of housing it provides, we need to be cognizant of what those changes will entail. We need to take care that they

are the changes we desire, and we need to keep foremost in mind how they may ultimately affect the residents they are designed to serve.

OVERVIEW

The Section 202 program has served the national interest for almost forty years. It has evolved from a loan program to a capital advance program; from housing for the low- to moderate-income elderly to housing the very-low income elderly; from an unsubsidized program to being coupled with Section 8 rental assistance to project rental assistance contracts. And as the program has evolved, it has kept pace with the changing needs of the residents being served. The elderly are the fastest growing segment of our nation's population, and the aging of the baby boomers will only accelerate that trend. There are some 330,000 residents in 6,200 Section 202 facilities. But, as stated, despite the success of the program, we are not nearly meeting the need and demand for new housing.

Since 1994, only thirty to forty percent of the applications eligible for Section 202 awards have been funded. There simply are not enough available funds for the other sixty to seventy percent of applications. In a recent national survey sampling of our members, we discovered that in some 470 projects, there are over 52,000 persons on the waiting list and the average wait is over two years.

HUD FISCAL YEAR 1999 FUNDING REQUEST

The first Administration threat to Section 202 concerns its funding level. Funding for the development of new Section 202 units has dropped significantly since the late 1970's when over 20,000 units a year were funded. Congress appropriated $645 million to build close to 7,000 units in fiscal year 1997 and fiscal year 1998. Unfortunately, the President's proposed fiscal year 1999 budget would cut Section 202 funding to $159 million with a third of the funds earmarked for vouchers. That means only $109 million would be available to expand the supply of affordable elderly housing. That amount would only develop 1,500 units, representing a funding cut of over 83 percent compared to current levels.

HUD has characterized this budget as the smartest and largest HUD budget in a decade. However, when it comes to Section 202, this budget is neither smart nor large. The Administration funding request is troubling and puzzling. Troubling because it slashes funding for the Section 202 program when federal policymakers are speaking of budget surpluses, and when the Administration proposes the largest funding increase for other HUD programs in a decade. Puzzling because while the Administration praises Section 202, it proposes legislative changes that would destroy the fundamental nature of this special, unique and successful program. From our perspective, the Administration's proposal amounts to little more than trying to save the program from its success.

There is also a jaded cynicism at work that says if the Administration proposes no, or low funding for Section 202 in their budget, due to the popularity of the program, Congress will add the funding back. The Administration would then apply the budget authority it would have requested for Section 202 to other programs. Unfortunately, if the budget authority is added back by Congress, elderly housing providers are perceived as having "robbed Peter" the other housing programs, to "pay Paul" the Section 202 program. This is an alienating, no-win, zero-sum game that is divisive and destructive. What makes this scenario all the more insidious in fiscal year 1999 are the generous increases proposed in most other areas of the HUD budget. The latest revelations by Secretary Cuomo of some $691 million in excess Section 8 moderate rehabilitation funds found by GAO in their recent audit of HUD accounts, would provide a respite in fiscal year 1999 from this Administration budget chicanery, provided these funds are applied to the Section 202 program as suggested by Cuomo during his testimony before this committee. We oppose the inadequate funding request and would encourage Congress to restore Section 202 funding to the fiscal year 1996 level of $830 million by using the excess funds identified by HUD Sec. Cuomo during his testimony before the appropriations committees as being available for that purpose.

CONSOLIDATION OF SECTION 202 INTO HOME

The second threat to Section 202 concerns block granting. In addition to funding cuts, the Administration recommends consolidating the Section 202 program with the HOME Program. We are obviously disturbed by this proposal. If the objective is to subsume Section 202 into HOME, Section 202 loses its distinctiveness as a program for the elderly. If the objective is to maintain Section 202 as a separate program under HOME, it simply becomes another set-aside program whose funding level and administration at the state and local level are problematic. If the objective

is to give states and localities greater control over decisionmaking for local housing needs, then a more appropriate funding level should have been proposed, one that would ensure more than four elderly housing units to be constructed in each congressional district. If the objective is to reduce HUD's administrative burden because of staff capacity and downsizing, then there are other avenues that should first be explored, including consolidated processing. However, if the objective is to eliminate the Section 202 program, then HUD's proposal has merit.

We are somewhat mystified that HUD has chosen to propose shifting Section 202 into HOME in light of the recent findings from the GAO study comparing HOME and Section 202. As pointed out in the study, from 1992–1995 the Section 202 Program funded 1,400 elderly housing projects, with nearly 52,000 new units for the elderly, while HOME funded only 30 elderly housing projects with less than 700 new units. Section 202 and the HOME program are both successful and valuable programs; but the two programs are designed to meet fundamentally different housing needs.

HOME has not been used as a major producer of new, affordable housing units for low-income elderly persons. Historically, that has been Section 202's role. Section 202 has been the primary government program responding to the special housing needs of low-income elderly Americans. Section 202 elderly housing delivers high quality housing and appropriate supportive services at affordable rents to low-income seniors. It is recognized as the nation's best and largest producer of affordable housing for low-income seniors, and has built a major portion of the nation's supply of quality, affordable elderly housing. In this light, it does not make sense to shove a square peg into a round hole. Section 202 should not be shoved into HOME to satisfy questionable objectives. We oppose the consolidation of Section 202 into HOME.

TENANT-BASED VOUCHERS VS. PROJECT-BASED ASSISTANCE

The third Administration threat to Section 202 concerns vouchers. We believe it is important to place into context what makes elderly housing unique. As we see it, elderly housing has special design features unique to older persons. Features such as grab bars, pull-cords, elevators, increased lighting, and the like. Elderly housing provides a sense of physical and emotional security, which is particularly crucial for vulnerable older persons. It prevents a sense of isolation. It provides a cost effective means to link supportive services with housing for older persons, particularly critical in promoting independence and delaying more costly institutional care. And, elderly housing promotes community volunteerism. It provides and/or links community services, both formal and informal, through public and private institutions, neighbors, families and friends. Housing for the elderly is more than a unit, it's home and it's a community.

However, vouchers are ideally intended to address short-term and/or transitional affordable housing needs, while older persons seek suitable and affordable long-term housing. The older resident seeking elderly housing wants a place to age-in-place and prevent or delay placement in other institutional care settings. Vouchers make it more difficult for older persons, particularly more frail elderly and persons who need the service enriched environment of elderly housing, to find available and suitable housing in the community. Vouchering out part of the Section 202 program would assume that the critical need is simply affordability, discounting the other benefits of elderly housing. Vouchers assume that suitable housing for the elderly already exists in the community. Vouchers do not expand the supply of affordable housing for the elderly.

The short-sighted Administration proposal to reduce funding for Section 202 and "do more with less" by substituting vouchers for new units, at best, diverts attention from the real issue which is to address the inadequate supply of suitable and affordable housing for the elderly. At worst, it is a cynical attempt to boost the Administration's budget numbers on paper by claiming a greater number of elderly will be served, however inappropriately. We oppose the Administration's proposal to turn Section 202 into a tenant-based rental assistance program using vouchers.

SERVICE COORDINATORS

In our facilities we have witnessed the very real phenomenon of "aging in place." Residents who moved into Section 202 projects twenty years ago when they were 65 are now 85 years of age. The profile of an average resident in elderly housing is a very-low income eighty year old woman receiving Social Security, and approximately 90 percent of these women are living alone. Our Section 202 facilities have come to reflect the vast support systems that are necessary for this frail, elderly woman to live independently with dignity and respect. We have long viewed Section

202 facilities as a part of the continuum of care with the benefits from economies of scale that accompany groups of older persons living together. Under the continuum of care concept, we now have a conglomerate of services in our Section 202 facilities to help make life easier for the elderly we serve, and the use of service coordinators in elderly housing facilities is an integral part of the continuum of care.

In fiscal year 1999, the Administration once again proposes to fund service coordinators as an eligible activity in a new $55 million Resident Opportunity and Supportive Services (ROSS) program under the Community Development Block Grant program, with $7 million earmarked for service coordinators and congregate housing. Similar to last year, this amount is expected to be applied towards expiring contracts. It is our understanding the $7 million amount requested by the Administration is woefully inadequate, as some $15 million is needed to renew service coordinator and Congregate Housing Services contracts in fiscal year 1999. While we are aware of the committee's reluctance to create new set-asides, we would prefer that service coordinators be a part of routine operating expenses funded through the Section 8 amendment account. We urge Congress to provide at least $25 million in funding through the Section 8 amendments account to renew expiring service coordinator and congregate housing contracts and for new service coordinator contracts in fiscal year 1999.

MODERNIZATION AND RETROFIT

A missing factor in the continuum of care equation for existing Section 202 and other elderly housing facilities is a funding mechanism for modernization and retrofit. Just as our residents are aging-in-place, our housing is aging, and is in need of modernization and retrofit. Some of this housing is over thirty years old, and many facilities need retrofitting to accommodate their aging residents, including adapting facilities for the delivery of supportive services. Many facilities are simply obsolete in terms of design and building materials; yet, these facilities generally lack the reserves for adapting their units to meet the needs of aging residents. Since the demise of the Flexible Subsidy program at HUD, there has not been a federal program to provide funds for modernization of federally assisted housing facilities. This should be corrected and we believe Congress should provide funding for modernization and retrofit to meet the long term physical plant needs of elderly housing facilities.

CONVERSION OF SECTION 202 LOAN PORTFOLIO AND SECTION 8 RENTAL ASSISTANCE

Over 4,500 Section 202 facilities containing approximately 215,000 units were financed using direct government loans to nonprofit sponsors from 1976 through 1988. Between 2001 and 2015, virtually all of these projects will have expiring section 8 contracts. Like the FHA multifamily portfolio, a primary issue facing this housing is the need for renewal of the Section 8 contracts. Current HUD policy calls for the renewals for one year only. In 2001, approximately 300 projects will require renewal. The number will climb each year until it reaches 4,500 projects in 2013. The estimated annual cost of renewal will be approximately $250 million in 2001 and will increase to $2.9 billion in 2021.

Congressman Rick Lazio recently led 17 bi-partisan co-sponsors in introducing H.R. 3635, the Senior Citizen's Housing Financial Restructuring Act of 1998. The legislation would allow sponsors of Sec. 202 facilities having outstanding loan balances and receiving Sec. 8 rental assistance to convert to the capital advance program with an accompanying project rental assistance contract. In its simplest form, conversion could have no or little financial impact on Section 202 facilities, but would budget the subsidy in a different way. By forgiving the principal and interest of the loan, the need for Section 8 subsidy is reduced by the amount of principal and interest payment. The forgiveness of outstanding Section 202 loans would initially have a one-time mandatory budget cost. However, the up-front costs of conversion would, over time, be more than offset by ongoing discretionary savings and lasting benefits to the HUD budget, elderly housing sponsors, and elderly residents.

We believe that Congress has a unique opportunity to address these issues because of the much-anticipated budget surplus, and unlike much of the rest of the Section 8 inventory, the contract renewal problem does not become significant for Section 202 until after the year 2000. Unfortunately, the forgiveness of debt on the Section 202 portfolio cannot be achieved under current budget scoring conventions. While we know this does not directly fall under the purview of this committee, we would encourage Congress to pursue the feasibility of changing existing budget rules to permit debt conversion to be carried out in ways to minimize the budgetary impact and reflect the real, long-term costs, savings, and other benefits of converting this inventory.

CONCLUSION

In a final note on Section 202, despite our strong support for the Section 202 program, we are not willing to allow the program to rest on its laurels. Section 202 is a good program, but we believe it can be made better. As HUD looks for ways to relieve its administrative burdens, we think Section 202 can also contribute to streamlining and administrative reform, especially through consolidated processing with a small, experienced staff in its funding availability application and award process; and paperwork reduction in its funding reservation process. Former Secretary Cisneros once called Section 202 the crown jewel among HUD programs, and we agree. It has served this nation well, and we believe that with the appropriate attention, reform and resources it can continue to deliver high quality housing and appropriate supportive services at affordable rents to low-income seniors. We stand ready to work with this Subcommittee and the Congress to make these things happen.

DEPARTMENT OF VETERANS AFFAIRS

PREPARED STATEMENT OF CHUCK BURNS, NATIONAL SERVICE DIRECTOR, AMVETS

AMVETS has not been the recipient of any federal grants or contracts during fiscal year 1998 or the previous two fiscal years.

Our testimony today will address primarily the National Cemetery System (NCS). Since its establishment, the NCS has provided the highest standards of compassionate service to each eligible veteran and family member eligible for interment in the system's 115 cemeteries. The National Cemetery System, its monuments, its land and the historical interments contained within are indeed national treasures which must be maintained, nurtured and, most of all, protected.

Despite NCS's continuing high standard of service and the Administration's proposal for an $8 million increase in budget authority for fiscal year 1999, we feel the system has been and continues to be under-funded. Since 1973, the annual burial rate within the NCS has almost doubled to 73,000. Most WWII veterans are in their mid-70's and the overall projected veteran death rate is expected to peak in the year 2008 with more than 620,000 deaths. Already, the average monthly death rate of WWII veterans is 36,000.

Even with the projected completion of new cemetery projects in Chicago, Cleveland, Albany, Seattle and Dallas-Fort Worth in calendar year 1999 and projected expansion of six other existing cemeteries, NCS will be hard pressed to meet the growing demand for space. We join with this Committee in encouraging the Administration to consider adding even more cemeteries to meet the growing demand for burial in a National Cemetery.

Historically, only about 10 percent of eligible veterans opt for interment in an NCS facility. Despite this seemingly low demand rate, if funding is not forthcoming for new acquisitions and development of existing land, the legal entitlement will be an empty promise, as veterans are denied access based on non-availability. Of the 115 National Cemeteries, 22 are closed to new burials and 36 are only open to cremated remains. Within the next two years, the number of National Cemeteries open to first interments of casketed remains will be further reduced by 50 percent.

Donations of space have helped ease the crunch somewhat, although in a piecemeal fashion. A truly national system must have the unqualified budgetary support of both the Executive and Legislative branches to ensure that all eligible veterans who so choose have the right to interment in a National Cemetery. We repeat our call for a National Cemetery or state-supported cemetery within 75 miles of 75 percent of the veteran population. We remain steadfast in our support for fiscal responsibility, but it must not come at the expense of denying an eligible veteran the most enduring benefit—burial in a National Cemetery.

The members of the Independent Budget acknowledge the ability of the dedicated staff of the NCS who continue to ably perform their mission despite budgetary shortfalls, inadequate staff, aging equipment and increased workload. The NCS is a labor intensive workplace, which, in the foreseeable future, cannot be supplanted by machinery. The unique maintenance needs of the NCS can only be met through adequate staffing. Currently, the NCS is deficient 275 FTEE's (full time employee equivalents) that need to be funded to ensure the adequacy of cemetery operations.

The National Cemetery System is faced with a number of serious challenges. Chronic underfunding remains the most serious and presents the greatest challenge to accomplishing its mission of compassionate service to each veteran and family eligible for burial. We have identified other major areas of concerns and recommendations that are crucial to ensuring the integrity of the NCS.

Inadequate Burial Space.—Presently, NCS has approximately 330,000 gravesites available with the capacity for adding 1.5 million sites on undeveloped land, if resources become available. The State Grant Program, operated by VA, provides an reasonable and accessible alternative to those who desire burial in a national cemetery, but because of distance must forgo the use of the burial benefit. Recent state budget surpluses in many states have made it possible for more states to participate in this program.

Recommendation

Congress must ensure that adequate burial space is available for all eligible veterans and their families who desire burial in a national or state veterans cemetery. Funding for the State Grant Program must be adequate to cover all state funding requests.

Dignified Burials for Deceased Veterans.—Citing budgetary constraints, the military services have not been providing honor guards for veterans funerals, beyond a single representative of the Department of Defense who presents a flag to the deceased veterans's family on behalf of the Government. This denial of appropriate honors is particularly shameful during this time when so many WWII veterans are being buried in national cemeteries.

Recommendation

Congress should enact legislation guaranteeing that all veterans being buried in national cemeteries receive appropriate military honors; further Congress should direct a transfer of funding from DOD to VA that would be sufficient for VA to contract for these appropriate services.

Quantico National Cemetery.—Opened in 1983, Quantico was viewed as the alternative site for burial for Arlington National Cemetery. Less than six percent of Quantico's 790 acres have developed for burials. Because of its large inventory of available, yet undeveloped land, Quantico holds the potential of becoming the largest of all the national cemeteries.

Recommendation

VA should develop and Congress should support an aggressive marketing strategy and major construction plan to make Quantico National Cemetery a desirable and well-utilized alternative to burial in Arlington.

Recently, national attention has focused on possible abuses regarding eligibility for burial in Arlington National Cemetery. Burial in Arlington for casketed interments is reserved for military personnel who died on active duty, career military retirees and holders of our Nation's highest military valor awards, such as the Medal of Honor, Silver Star, Distinguished Service Medal and Purple Heart, among others. Under the rarest of circumstances waivers are granted to individuals for compassionate reasons or other reasons related to high government service.

During the last few years, requests for waivers have grown from a handful during previous Administrations to more than 69 during the Clinton presidency. The veterans community is duly concerned about the perceived arbitrariness of the waiver process in this Administration. Inequities in the application of the process demeans the honor of burial in a national cemetery. We urge the Congress to enact legislation that would require all waivers for burial be subject to an apolitical, uniform process that ensures objectivity and guarantees the integrity of current regulations regarding burial in Arlington National Cemetery.

Our recommendations to ensure the integrity of the National Cemetery System for fiscal year 1999 cost out at approximately $99,919,000 an increase of $13 million in budget authority over fiscal year 1998 and includes the costs for our recommendation of an additional 275 FTEE's to meet current and future staffing needs.

Mr. Chairman, this concludes our statement.

PREPARED STATEMENT OF THE AMERICAN HEART ASSOCIATION

YOU ARE A TARGET

Chances are heart attack or stroke will be the death or disabler of you or someone you love. Heart attack, stroke and other cardiovascular diseases are America's No. 1 cause of death and a main cause of disability. Cardiovascular diseases account for nearly 1 of every 2 American deaths.

The American Heart Association is pleased to provide recommendations on fiscal year 1999 appropriations for the Department of Veterans Affairs' Medical and Prosthetic Research program. This program consists of four components: Cooperative

Studies Program, Health Services Research and Development Service, Medical Research Service; and Rehabilitation Research and Development Service.

YOU CAN MAKE A DIFFERENCE

The AHA, dedicated to reducing death and disability from heart attack, stroke and other cardiovascular diseases commends this Committee's support of the VA Medical and Prosthetic Research program. AHA applauds the President for proposing a 10.3 percent increase over the fiscal year 1998 budget, but we believe that this amount would not provide sufficient funds for this important program. The AHA is concerned that insufficient money is being devoted to America's No. 1 cause of death—heart disease—and our No. 3 cause of death and the leading cause of permanent disability—stroke.

HOW YOU CAN MAKE A DIFFERENCE

The AHA recommends a fiscal year 1999 appropriation of at least $325 million for the VA Medical and Prosthetic Research program. Our recommendation, consistent with that of the Friends of VA Medical Care and Health Research, will allow maintenance of fiscal year 1998 initiatives and full implementation of new initiatives for fiscal year 1999. The AHA challenges our government to significantly increase funds for heart and stroke research through the VA Medical and Prosthetic Research program. We strongly urge the VA to establish heart and stroke centers to advance the battle against heart attack, stroke and other cardiovascular diseases—America's No. 1 killer and a leading cause of disability. Our government's response to this challenge will help define the health and well-being of citizens in the next century.

STILL NUMBER ONE

Heart attack, stroke and other cardiovascular diseases have been the leading cause of death since 1919. More than 58 million Americans—1 in 5—suffer from one or more of these diseases. Millions of Americans have risk factors for cardiovascular diseases—about 50 million have high blood pressure, 38 million have high blood cholesterol and 50 million smoke. Over the last 20 years there has been a dramatic increase in the indicators of prevalence of heart disease and stroke.

While heart disease and stroke occur at all ages, they are most common in Americans over age 65—an age group that is now about 13 percent of the U.S. population and will be 20 percent by year 2010. By the year 2010, the percentage of veterans over 65 years of age will be about three times that of the general population or 42.5 percent of the veteran population. The VA's planning models recognize that its aging patient population demands more care. More than 4.49 million or 16.4 percent of the veteran population reported suffering from "heart trouble" in the 1993 National Survey of Veterans. More than 990,000 or 3.6 percent of the veteran population are stroke survivors. As the veteran population ages, the number of veterans afflicted by heart disease and stroke will increase substantially.

Cardiovascular diseases put an enormous burden on our economy. Americans will pay an estimated $274 billion for cardiovascular-related medical costs and lost productivity in 1998. No other disease costs this nation so much money and that amount is expected to increase dramatically with the growth of the senior citizen population.

INSUFFICIENT VA RESOURCES DEVOTED TO HEART AND STROKE RESEARCH

The Department of Veterans Affairs Medical and Prosthetic Research program plays an important role in heart and stroke research and deserves the strong support of Congress. In fiscal year 1997, VA support for research on heart disease was $16.1 million (a 23.6 percent reduction from fiscal year 1996), accounting for 6 percent of the fiscal year 1997 VA's Medical and Prosthetic Research budget. In fiscal year 1997, VA-supported stroke research represented $3.1 million or 1.2 percent of the VA's Medical and Prosthetic fiscal year 1997 budget. In addition to its own program, the VA investigators spent an additional $33.8 million on heart research and $7.7 million on stroke research from outside sources.

VA HEART AND STROKE RESEARCH BENEFITS ALL AMERICIANS

The mission of the VA Medical and Prosthetic Research program is to "discover knowledge and create innovations to advance the health and care of veterans and the nation." While the primary purpose of the VA health care system is the provision of quality health care to eligible veterans, VA-supported research contributes to the quality of care by bringing talented and dedicated physicians into the VA sys-

tem. Discoveries from VA-supported research benefit veterans, science and the world's health.

VA cardiovascular research represents an integral part of the overall scientific effort in this field. VA researchers include many nationally recognized, distinguished scientists and several Nobel Laureates. Several VA investigators have been acknowledged for their work in cardiovascular research. Also, VA investigators provide core faculty support at major medical schools affiliated with VA institutions.

The Medical Research component of the VA Medical and Prosthetic Research program supports both basic and clinical research, primarily investigator-initiated peer reviewed studies. This component provides funds for support of VA-based faculty members (M.D's or Ph.D's) at various stages in their careers, multicenter cooperative studies—a large portion of which are cardiovascular studies—and research equipment. The presence of a VA research program aids the VA. This small, but internationally recognized, highly competitive research program in fiscal year 1998 supports 2,123 investigators at 115 VA facilities nationwide.

VA cardiovascular research is largely clinical in nature. The VA is a major contributor to this nation's clinical research, playing a unique role in the research community because of its ability to immediately translate research findings into clinical practice.

VA-supported research has produced landmark results and revolutionized treatment in the cardiovascular area. You and your family have benefited directly for VA heart and stroke research. Several cutting-edge examples follow.

Inflammed Arteries.—Many heart attacks and strokes are the end result of atherosclerosis, the disease process that causes obstructed blood vessels. VA-supported research has shown a major way inflammation causes atherosclerosis or hardening of the arteries. Scientists found large numbers of a certain receptor on inflammatory cells in heart blood vessels. If researchers can create a way to stop the receptor, atherosclerosis could be prevented.

Prediction of Heart Bypass Surgery Success.—In 1995, an estimated 573,000 heart bypass surgery procedures were performed on 363,000 patients in the United States at an average cost of $44,820 per procedure. Generally, one year after surgery, 10 to 15 percent of the vein grafts used in these procedures become blocked. VA research has found that reducing the temperature of the solution used to harvest the vein grafts may stop heart arteries from becoming clogged with atherosclerosis. The study also discovered that while a daily aspirin stops artery vein blockage for a year after surgery, long-term survival depends on the extent of underlying disease before the procedure and the length of time of the procedure.

Gene Therapy May Help Heart Failure.—About 4.9 million people in the United States suffer from congestive heart failure, the leading cause of hospitalization for Americans age 65 and older. VA researchers have found in non-human studies that inserting a gene in heart cells affected by heart failure started an active increase in the chemical that triggers the cells to beat stronger. Additional research in this area could provide a new lease on life for millions of Americans.

Stroke Risk Reduction.—About 9 percent of older Americans suffer from the most common type of an irregular heartbeat, atrial fibrillation, a risk factor for stroke. Research has shown that low doses of the blood thinner warfarin can lower the risk of stroke by about 80 percent in patients suffering from atrial fibrillation.

Stroke Survivor Improvements.—Stroke is the leading cause of permanent disability in the United States and the No. 3 killer. VA studies have produced therapies to enhance quality of life for survivors. VA researchers have created a software program to assess and correct stroke-related speech disorders and have developed a rehabilitation procedure to restore arm movement. Researchers have identified seven pathways associated with motor recovery from stroke.

Medication vs. Bypass Surgery.—An estimated 573,000 coronary artery bypass surgery procedures were performed on 363,000 patients in the United States in 1995. In a landmark study, VA researchers found that heart medication works just as effectively as coronary artery bypass surgery for most patients with blocked arteries.

Aspirin and Angina.—About 7.2 million Americans suffer from angina (chest pain) due to insufficient blood supply to the heart. In another landmark study, VA research found that aspirin cuts deaths and heart attacks by 50 percent in patients suffering from unstable angina.

Angioplasty Benefits.—In 1995, an estimated 434,000 angioplasty procedures were performed on 408,000 patients in the United States to restore blood flow to the heart by widening narrowed arteries. VA research was the first to evaluate this procedure. Results showed that after undergoing angioplasty, patients suffered less pain and can exercise longer than those taking only medication. Another study

showed that clot-busting drugs produced comparable results to those of angioplasty at cost savings of $3,000 per patient.

Heart Failure Drugs.—About 4.9 million Americans suffer from congestive heart failure, the often disabling inability of the heart to pump sufficient blood throughout the body. A VA study showed that heart medications can enhance the heart's pumping ability and keep sufferers of congestive heart failure alive. These study results have revolutionized heart failure treatment.

Non-Q-Wave Heart Attack.—Of the estimated 1.1 million Americans who will suffer a heart attack this year, an estimated 750,000 will experience the non-Q-wave—EKG classification—version. VA research showed that noninvasive treatment of non-Q-wave heart attack survivors is just as effective or in some cases better than invasive procedures such as bypass surgery and angioplasty. Higher death rates for victims were associated with invasive procedures.

HEART AND STROKE RESEARCH CHALLENGES AND OPPORTUNITIES FOR VA

The research advances highlighted above and other progress have been made possible by congressional support of the VA Medical and Prosthetic Research program. Thanks to research, no longer does a heart attack or a stroke necessarily mean immediate death. Now that more people are surviving, heart attack and stroke can mean permanent disability, costly medical attention, and loss of productivity and quality of life.

Challenges and research opportunities to advance the battle against heart disease and stroke abound. Examples of on-going VA research are highlighted below.

Heart Failure Studies.—The growing number of patients suffering from congestive heart failure has earned this disease the title of "the new epidemic." VA research is examining whether the addition of beta-blockers to standard treatment reduces deaths and enhances health and quality of life of patients with heart failure. Another study is creating a large DNA bank of sufferers to examine the genetic basis of heart failure. The first large scale, international, randomized clinical trial is assessing the role of digitalis in the modern treatment of congestive heart failure. It is evaluating the effects of this 200-year old treatment in preventing deaths from heart failure, the leading cause of hospitalization of Americans age 65 and older. Heart failure represented more than 22,000 VA hospitalizations in 1990 at a cost of about $100 million. Research results will improve treatment of heart failure.

Heart Attack Research.—An estimated 1.1 million Americans will suffer a heart attack this year. VA research is assessing the most cost-effective way to diagnose and treat suspected heart attack victims without the use of costly invasive procedures. One such procedure being examined is a computer analysis of the heart's electrical signals during exercise. Findings from this study could save money, improve health care and reduce the number of surgical procedures.

Warfarin and Aspirin Study.—Heart attack remains the single largest cause of death in the United States. A VA-sponsored study is analyzing the effects of warfarin, a blood thinner, plus aspirin versus aspirin alone in reducing deaths from heart attacks. Research results could save 20,000 lives each year.

Atherosclerosis and Iron Research.—Atherosclerosis or hardening of the arteries is a major risk factor for heart attack and stroke. VA research is evaluating the concept that too much iron in the blood stream causes atherosclerosis. Results of this research could revolutionize the treatment of heart attack and stroke.

Cholesterol Drugs.—About 37.7 million American adults have elevated blood cholesterol levels, a major risk factor for heart attack and stroke. An estimated 11 million veterans are at increased risk of heart disease due to high cholesterol levels. A clinical trial is comparing the use of the drug gemfibrozil versus a placebo in reducing cholesterol levels. Results could provide cost savings if the drug gemfibrozil can replace the more expensive statin drugs.

Irregular Heart Beat and Stroke Drug Trial.—An estimated 1.5 million Americans suffer from atrial fibrillation, the most common irregular heart beat, which causes more than 75,000 strokes a year. A VA study is evaluating the efficacy of two promising drugs in maintaining normal heart beat. Research results will enhance treatment for atrial fibrillation and reduce stroke risk.

Stroke Rehabilitation.—Stroke will strike about 600,000 Americans this year; most survivors will remain permanently disabled. Studies to enhance functional capacity and capabilities of stroke survivors are underway.

The number of VA research applications has grown slightly over the last five years, but funding cuts and/or inflationary increases severely restrict support for approved applications. For the programs, which were reviewed for fiscal year 1998 funding, more than 30 percent of approved applications were funded. Ten years ago, 50 percent of the approved applications were funded.

Through fiscal year 1998, total dollars appropriated for the Department of Veterans Affairs Medical and Prosthetic Research program have decreased $79.3 million since 1985 at an average annual rate of about 3 percent. However, there has been a decrease in terms of constant "1985 dollars" of $60 million.

The Medical Research programs highlighted below are of interest to the AHA.

Investigator-Initiated Studies.—During fiscal year 1998 this program will constitute 56 percent of the Medical and Prosthetic Research appropriated budget and will support an estimated 1,431 investigators. Under the President's 1999 budget, this program would be level funded from the fiscal year 1998 appropriated level. These investigators comprise the core of all VA research and provide the preceptorship for career development awardees.

Cooperative Studies.—In fiscal year 1998 this program supports 48 clinical trials. The VA offers a unique opportunity for cooperative studies due to close linkage among hospitals. These studies provide a mechanism by which research on the effectiveness of diagnostic or therapeutic techniques can achieve statistically significant results by pooling data on patients from a number of VA hospitals. The Cooperative Studies Evaluation Committee evaluates proposals developed by teams of VA clinicians and biostatisticians. The VA under this mechanism has supported many landmark clinical trials in the cardiovascular field (e.g., studies in high blood pressure treatment and coronary artery bypass surgery). Under the President's fiscal year 1999 budget, this program would receive a $4 million increase from the fiscal year 1998 appropriation.

Career Development Awards.—Applications for these awards are reviewed both locally and by the VA Central Office. This program has experienced a decrease in the number of awards by 58 percent from a high in 1991 of 212 awards to a low of 88 awards in fiscal year 1997. In response to the Research Realignment Advisory Committee suggested rejuvenation of this program, a review began in fiscal year 1997 for the VA's Medical Research Service, Health Services Research and Development Service and, for the first time, Rehabilitation Research and Development Service. This will result in an anticipated 135 Career Development Awards in fiscal year 1998.

ACTION NEEDED

Today's investment in biomedical research will lead to future returns. These returns include continued decreases in death rates from heart attack, stroke and other cardiovascular diseases, reduced federal outlays for hospital and long-term care expenses, a well-trained cadre of biomedical researchers and a more healthy and productive society.

The American Heart Association recommends a fiscal year 1999 appropriation of at least $325 million for the VA Medical and Prosthetic Research program. Our recommendation is consistent with that of the Friends of VA Medical Care and Health Research. An appropriation of this amount will allow maintenance of fiscal year 1998 initiatives and full implementation of new initiatives for fiscal year 1999. A fiscal year 1999 appropriation of at least $325 million for this program would continue current research momentum in cardiovascular diseases within the VA and help to maintain the VA's vital role in the overall scientific effort in this field. We strongly urge the VA to establish heart and stroke centers to advance the battle against heart attack, stroke and other cardiovascular diseases—American No. 1 killer and a leading cause of disability.

PREPARED STATEMENT OF DR. ROY A. CHURCH, PRESIDENT, LORAIN COUNTY COMMUNITY COLLEGE

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to present a statement regarding an important career training and economic development initiative being undertaken in Ohio by the Lorain County Community College.

This initiative involves the creation of a One-Stop Job Training and Employment Skills Resource Center at an abandoned hospital in the City of Lorain. This effort received $800,000 in start-up funds last year, and the $2 million sought for the Resource Center should complete the linkage between the converted hospital and the Community College.

The community leaders believe this is an important first step toward attracting and educating the large population of adults lacking access to job training and higher education opportunities. The Center, which is in the heart of a declining urban city, is part of the solution for regional economic development. I will attempt to describe in general terms for the Subcommittee the elements of this effort.

The economic opportunities brought about by technology have bypassed Northeast Ohio and similar areas across the nation. In many urban school districts, a majority of high school graduates (especially among special populations) do not complete a rigorous course of study that prepares them for completing a college degree or for entering high-skill, high-wage careers.

The Center is designed to serve adults, who often lack a sufficient mastery of basic information technology skills. This Center will provide the training, services and resources to help them function effectively in a technologically-advanced workplace. Included in this group are dislocated workers who are unlikely to return to a previous industry or occupation.

Lorain County Community College (LCCC) has leased space in a converted 400,000 square foot facility in downtown Lorain, which will serve as a satellite hub for a comprehensive distance learning program made available at a new one-stop training center providing counseling, adult and child daycare, applied training and job search opportunities. Through distance learning, adults attending LCCC classes at the Center will have access to such campus curricula as information technology certification, allied health training, pre-med and/or physician training.

The One-Stop Job Training and Employment Skills Resource Center is an integral component of LCCC's "21st Century Connected Learning Community." LCCC will join with other agencies and organizations to serve the unique needs of the urban area. I will describe the various components to be included in this Center.

The Department of Veterans Affairs operates a community outpatient center providing primary care access for veterans. This clinic can provide opportunities for health training, which may have a telemedicine component providing links to medical universities and Veterans Hospitals and clinics in Ohio.

The Lorain County Community Actions Agency (LCCAA) is a private non-profit social service organization serving low- and moderate-income individuals and families of Lorain County. LCCAA currently provides a wide range of programs and services, including Head Start, Home Weatherization Assistance, Senior employment, nutrition and transportation services, congregate living, Emergency Home Energy Assistance Program and other emergency services. LCCAA believes that family support, combined with education, training and employment services is most effective in developing long-term self-sufficiency. LCCAA is prepared to address welfare-to-work needs of Lorain to provide a broader range of services to a larger number of people. In addition, LCCAA intends to set aside space as an incubator for micro-enterprises. Community development, training, administrative and financial experts would be available for consultation to assist entrepreneurs in building viable, sustainable businesses. The Community College will play a significant role in designing these programs.

The Catholic Charities is also a private not-for-profit organization to be located in the Center. They are establishing a Family Resource Center and may relocate a transitional housing complex at the site. The tenants of this multi-unit complex would be able to access the educational services provided by Lorain County Community College and all other services to be located at the complex.

Humility of Mary Assisted Living Services will provide assisted living to persons with Alzheimer's disease and provide other senior services. Senior will be able to attend classes and students will be able to work with senior citizens as part of a health aide training experience.

SCCI Hospital of Lorain, Ohio plans to convert a portion of the complex into a 45-bed acute care hospital certified by HCFA as a long-term Acute Care Hospital and will provide health careers training opportunities for community college students. The level of care provided is post-acute, which is a level between an acute hospital and skilled nursing care. SCCI's goal is to be part of the continuum of care to allow patients to return to their utmost quality of life.

With deployment of necessary telecommunications infrastructure, LCCC will be able to provide a very broad range of training experiences at this urban center for adults, dislocated workers and high school students seeking career training. This Center's telecommunications infrastructure will also link Lorain County Community College to Lorain City Schools. This critical link will enable LCCC to bring distance learning applications to this urban school district.

The other tenants of the converted hospital complex in downtown Lorain will be provided with access to an applied learning experience on-site and, with two-way communication, these experiences can also be brought back to the Community College campus. The possibility of a telemedicine connection with the Department of Veterans Affairs will provide an outstanding link to LCCC, which currently provides physician training at the campus.

This critical first step of reaching out to the region will launch the broader economic development and job-training initiatives that LCCC has been developing on

campus over the last couple years and enhance successful programs in engineering and manufacturing that have been in operation. LCCC is requesting a Federal partnership of $2.1 million to help fund the telecommunications infrastructure and linkages necessary for the distance learning component of the initiative. With this relatively small investment, Lorain Community College can become the learning hub that will help Lorain County successfully meet the technological challenges of the 21st Century.

Thank you.

PREPARED STATEMENT OF LINDA BOONE, EXECUTIVE DIRECTOR, NATIONAL COALITION FOR HOMELESS VETERANS

Mr. Chairman, I am Linda Boone, Executive Director of the National Coalition for Homeless Veterans (NCHV). On behalf of our members, located in thirty-nine states, the District of Columbia and Puerto Rico, I thank you for the opportunity to present the views of NCHV in regard to a number of the priorities expressed in the fiscal year 1999 Budget proposal submitted by the President to the Congress.

We thank you for your leadership, Mr. Chairman, as well as your distinguished colleagues on this Committee for your efforts in carefully reviewing the fiscal year 1999 Budget in order to do everything you can to ensure that our Nations' covenant with the men and women who have served in the United States military is fully met.

The National Coalition for Homeless Veterans (NCHV) strongly endorses the recommendations of the Veterans Independent Budget and Policy (IBVSO) for fiscal year 1999. In general, NCHV endorses the IBVSO recommendations for overall appropriations for all aspects of operation of the United States Department of Veterans Affairs' (VA) programs for fiscal year 1999. The IBVSO correctly points out the drastically diminished purchasing power of funds appropriated for medical care since 1980, and the fact that such appropriation for the Veterans Health Administration has lagged far behind the rate of increases for the private sector and for Medicare.

In particular, NCHV would draw your attention to the recommendation that third party payments only be used as a supplement to appropriated dollars, and not as a substitute for appropriated funds. This is a particularly important issue for homeless veterans. Virtually no homeless veterans have any private medical coverage, and many may not qualify for any Medicare coverage. Many homeless veterans suffer from neuropsychiatric medical conditions, in addition to physiological problems. Most private insurance plans provide very minimal coverage for neuropsychiatric treatment, and typically specifically exclude coverage for war related injuries, including Post Traumatic Stress Disorder (PTSD). The concern is that the substitution of the third party payments for appropriated funds cannot help but affect the shape and emphasis of the service delivery, both in range and quality services delivered, to adjust to the funding stream(s). This is particularly likely to occur if the third party collections are relied upon for basic operations, no matter how conscientious and vigilant the structure of the Veterans Health Administration (VHA) may be in trying to guard against these phenomena. NCHV firmly believes that such third party collections should augment, not supplant funds appropriated in the best interest of the Nations' duty to veterans.

The National Coalition for Homeless Veterans (NCHV) believes that a glaring major omission in the fiscal year 1999 VA Budget request is the lack of a clear commitment to creating adequate transitional housing. The dramatic shift that continues to take place within the Veterans Health Administration from inpatient models of service delivery to outpatient models of service delivery as a primary methodology has created significant difficulties in providing quality medical treatment for low income veterans, homeless veterans, and other veterans in "at risk" situations. That problem is becoming larger and more pressing each month. While perhaps it will be the case that truly objective research in the future will bear out the contention that the outpatient mode of delivery of neuropsychiatric treatment and services is as effective (or possibly even more effective) than the more expensive inpatient delivery of such treatment, that will only be the case when there are safe, clean transitional housing facilities, which are devoid of drugs and alcohol available to veterans under treatment in that locality. This is already a major (although generally publicly unacknowledged) problem at the majority of VA Medical Centers.

As one illustration of the negative impact on medical care caused by the lack of adequate units of safe, clean, sober transitional housing, the success rate of the "Homeless Veterans Outreach Program" at one VA Medical Center (VAMC), in a major metropolitan area in the Eastern United States, diminished from success with

more than 50 percent of their veteran patients to less than 30 percent success. This was in the first year after the length of the stay on the psychiatric wards and the substance abuse wards was reduced to one week or less for all but the handful of veterans at the very greatest risk to themselves and others. All concerned believed that the lack of safe, clean transitional housing that has a supportive atmosphere determinedly free of drugs or alcohol for these veterans to reside while in treatment is the major impediment to the outpatient treatment and services offered to be effective. NCHV is in strong agreement with the IBVSO that the lack of adequate safe, clean, sober transitional housing is a quality of medical care issue. Perhaps one of our more active members (who served as a medic in Vietnam) phrased this problem most aptly when he says: "You cannot deliver definitive medical care when you are still in the mud and under fire. You must first get the casualty to a safe and clean place that is set up for medical care." We urge the Committee to urgently address this crucial problem.

NCHV believes that what is needed to begin to rectify this growing problem that directly affects medical care vitally needed by many veterans most in need is for early passage by the Congress and enactment by the President of the fine legislation introduced in the other house as H.R. 3039, the "Veterans Transitional Housing Act of 1997." It is NCHV's understanding that similar legislation may soon be introduced in the Senate.

The National Coalition for Homeless Veterans (NCHV) believes that this basic concept of utilizing loan guaranties in order to access private capital is a good way to create more transitional housing facilities by means of creating this highly creative, yet very fiscally prudent, loan guaranty authority program. NCHV urges the strong support of you and your colleagues for early passage of this vital legislation by the House of Representatives, and for any action as may be necessary by this Subcommittee to ensure that the needed budgetary authority is available when this legislation is enacted. It is estimated by the Congressional Budget Office (CBO) that the cost of this program will potentially be $7 to $10 Million over five years, in order to yield $100 Million worth of safe, clean transitional housing that is devoid of drugs and alcohol.

These additional units of transitional housing, as noted above, are necessary in order to begin to alleviate the acute shortage of such transitional units in order to maximize the usefulness of the (considerable) resources devoted to serving these veterans by means of the "Partial Hospitalization Program (PHP) or other essentially outpatient treatment methods of service delivery. This appears to NCHV to be a very good investment indeed, yielding more than $10 worth of such housing units for every taxpayer dollar invested, with the rest of the needed capital being secured in the private sector.

As important and useful as early enactment and implementation of the Veterans Transitional Housing Act would be, the need for additional transitional housing units for veterans receiving care from VA is of such a magnitude, and such a broad geographic distribution, that additional actions must be taken to ensure quality medical care at each VA medical facility.

Specifically, NCHV urges that you and your distinguished colleagues include language in the fiscal year 1999 Appropriations bill for VA that will ensure that the VA Homeless Veterans Grants & Per Diem Program is funded via the VA internal allocation of funds at the full $10 Million currently authorized by the Congress. While NCHV is aware of the reluctance of the Congress to return to "fencing" of program dollars in most cases, specific language in either the Act or the Committee report pointing out the need may well accomplish the desired result. Approximately $6 Million has been allocated for this program to date for fiscal year 1998 by the internal procedures of the VA. Of these funds, $4.7 will be spent on per diem and $5 Million on grants to create additional units of transitional housing. It is useful to note that in fiscal year 1997 $3.3 Million was expended on grants to community based organizations to acquire and renovate additional units of transitional housing, and only $2.7 Million on per diem.

As units currently in the process of construction or renovation become operational, an ever larger share of the authorized $10 Million must be spent on per diem charges to support the proper operation of the housing previously acquired by means of Grants pursuant to this program. Although this program has not even begun to keep pace with the increased need for such housing, NCHV believes that this program will no longer be able to create any additional transitional housing units by fiscal year 2000, as all of the amount currently authorized will have to be spent on per diem. There is even some question as to whether there will be enough per diem funds under the current program authorization that could be allocated by the VA internally to fully fund the per diem for activities taking place in transitional facilities already created pursuant to this program. This is an unacceptable

situation. NCHV has contacted the leadership and entered into discussions with the staff of the Committee on Veterans' Affairs to seek action that will rectify this situation, where the vital needs of veterans may well go unmet.

The National Coalition for Homeless Veterans (NCHV) is very concerned that the continuing process of ostensibly decentralizing decision making authority within the Veterans Health Administration (VHA) by transferring authority for some decisions to each of the twenty-two Veterans Integrated Service Networks (VISN's) is having the effect of precluding VHA from even having the capacity to produce any standardized reporting on a National basis. This makes it difficult to obtain a clear picture of the rapid changes in both the amount and the types of medical care and services being provided at facilities across the United States. In a recent report, the Senate has correctly pointed out that virtually all systemic quality control/quality assurance programs have been in effect eliminated or debilitated by the kaleidoscopic changes, both at the VISN level and at the VA Central Office level.

NCHV holds that perhaps medical care at the VA would be most efficient and effective if authority as to how best to accomplish the mission(s) of VHA were to be even more decentralized. However, the responsibility for setting the mission(s), and holding the VISN's and each VA facility accountable for how well that mission is being accomplished has been given to the Secretary of Veterans' Affairs and to the Undersecretary for the Veterans' Health Administration.

NCHV strongly believes in the military principle of "You may delegate authority; You may NOT delegate responsibility." This principle is certainly applicable to these two officials. The VA must do a better job of standardizing reporting, and in re-instituting meaningful and effective quality assurance systems.

The National Coalition for Homeless Veterans (NCHV) is also very concerned about many anecdotal reports from our members about the further diminishment of neuropsychiatric services to veterans. Not only is the organizational capacity of the Veterans Health Administration to deliver inpatient care for Post Traumatic Stress Disorder (PTSD) and for substance being diminished, but the justification of shifting resources over to outpatient modes of delivery appears to not be keeping pace with the stripping of resources from the inpatient neuropsychiatric programs. In other words, the ability of the Veterans Health Administration facilities to be able to address the neuropsychiatric wounds of war and the requirements of the veterans' population for such care, which was already inadequate in the face of the overwhelming documented needs, is being further diminished. As the IBVSO correctly points out, this diminishment is further compounded by the lack of safe, clean, sober transitional housing for veterans who are ostensibly being assisted by outpatient neuropsychiatric programs or Partial Hospitalization Programs (PHP).

NCHV urges the Committee and the Congress to take steps to more fully assess this apparent diminishment of neuropsychiatric services at VA. Further NCHV urges the Committee to take the steps necessary to halt and reverse the destruction of the organizational capacity of VA to properly address the neuropsychiatric wounds of war as well as to properly fund the creation and maintenance of enough units of transitional housing and community services in proximity to every VA facility in the Nation.

NCHV believes that the best means of accomplishing all of the above noted objectives is for the Subcommittee to request that the Secretary of Veterans' Affairs hold each Veterans Integrated Service Network (VISN) Director (and by extension each VAMC Director) explicitly responsible and fully accountable in their performance goals and personal performance evaluation as to how well that VISN has: (1) Met the documented need for safe, clean transitional housing units that are devoid and alcohol, utilizing VISN funds to fund creation of such units in the community in addition to the national Grant & Per Diem program funds that may be available; and, (2) Provided a continuum of care for homeless veterans seeking care from the VA that includes intensive case management services as necessary provided by means of VA personnel or by means of contracting with appropriate community based organizations; and (3) Maintained the Homeless Outreach program at an acceptable level of activity and Government Performance and Results Act (GPRA) type of measurable outcomes, as compared to other comparable VISN's in the United States; and, (4) Maintained the quality and extent of neuropsychiatric care at least at the fiscal year 1995 levels, particularly for veterans who are Chronically Mentally Ill and those veterans with Post Traumatic Stress Disorder (PTSD) as at least one aspect of their diagnosis.

The National Coalition for Homeless Veterans (NCHV), as noted above, endorses the "Veterans Independent Budget and Policy" (IBVSO) for fiscal year 1999, as presented by top representatives of the four sponsoring organizations (AMVETS, the Disabled American Veterans, Paralyzed Veterans of America, and the Veterans of Foreign Wars of the U.S.).

The IBVSO is in many ways a much more complete and thoughtful document than that presented by the VA, particularly in the sections dealing with Seriously Mentally Ill, Post Traumatic Stress Disorder, Substance Abuse Treatment, and Homelessness. It is not just a matter of the differences in the amount of resources called for to properly address these problems in the IBVSO (although the IBVSO did call for the proper resources to more adequately address these vital problems). Rather, the IBVSO reflects a more proper understanding the magnitude of these problems, and what resources and actions are needed to begin to provide for quality medical treatment and high quality, effective services. NCHV specifically commends these sections of the IBVSO to you and your colleagues on the Committee on Veterans' Affairs for closer scrutiny as you ponder on the correct course(s)

The National Coalition for Homeless Veterans (NCHV) wishes to also point out that the section of the VA fiscal year 1999 Budget request documents that specifically addresses the Homeless Veterans Treatment and Assistance Program (pages 2–24 to 2–26) is the only set of goals for assisting homeless veterans that VA has publicly stated in an official document. The aforementioned goals are identical to those set forth in the most recently available VA "Strategic Plan" (October 1997), which is publicly available on the Internet Web site of the United States Department of Veterans Affairs.

The problem that NCHV has with these "performance goals" is that they are so very minimal. The first goal of trying to increase the percentage of VA facilities that perform outreach to homeless veterans should not even be an issue. A simple direct order from the Secretary of Veterans' Affairs should be all that is needed to ensure that all VA facilities are doing their job in this regard, without spending any more of the limited time of VA Central Office staff in trying to cajole facilities into doing what they should have been doing assiduously all along. The second goal of creating 500 new community based beds by the end of fiscal year 2000 might in fact be a reasonable and possibly adequate figure for beds in safe, clean, sober environments if we were discussing the need for such beds for veterans in outpatient treatment in Arizona and Illinois only. However, the VA is here speaking of the Nation. This figure is startlingly inadequate in the face of the need being created by VHA's elimination of inpatient treatment capacity and very heavy reliance on outpatient and "partial hospitalization" modes of treatment service delivery for neuropsychiatric care. Similarly, NCHV strongly believes that the goal of providing per-diem payments to offset operating costs for up to 3,500 such beds by the end of 2003, if the funds are available, is simply inadequate in the face of the very significant need which is largely created by VA's own actions.

As to the last of the performance goals contained in this section, NCHV agrees that it will prove to be extremely valuable to all concerned, particularly the Congress, if the VA can establish outcome measures for housing, employment, mental health, mental health status, and substance abuse related to veterans who acquire secure living arrangements at the time of discharge from a supportive housing program.

The problem we have here is that VA estimates there are at least 275,000 veterans who are homeless on any given night of the year, with more than double that number homeless at some point during the year (i.e., more that 500,000 veterans homeless at some point during the year). The highest estimate is that VA has some contact with about 30,000 homeless veterans during the course of the year (excluding the prodigious activity of the VET CENTERS). Establishing outcome measures and indices, while useful, cannot really be considered to be strategic goals to address a problem that is of the documented magnitude as is the number of homeless veterans. It may in fact be a useful tool and a limited operational objective, but it is not a goal.

The United States Department of Veterans Affairs needs a Strategic Plan that contains goals and objectives which can (and will) serve as a blueprint for each of the twenty-two Veterans Integrated Service Networks (VISN's) to prepare operational plans and objectives that will begin to meet the pressing vital needs of this most vulnerable group of our Nation's veterans. To accomplish this purpose, the goals need to be realistic but "large enough" to be worthy of our Nation and the men and women who served in military service to country. As one example, NCHV would suggest that every VA effort and program to assist homeless veterans be evaluated to ensure that the explicit goal of assisting the veteran to reach the point of being able to "obtain and sustain employment at a reasonable living wage" is central to each and every effort and program.

Mr. Chairman, thank you for allowing the views of the National Coalition for Homeless Veterans (NCHV) to be included in the record of these proceedings.

PREPARED STATEMENT OF DAVID B. ISBELL, CHAIR, VETERANS CONSORTIUM ADVISORY COMMITTEE

Mr. Chairman and distinguished members of the committee: On behalf of the Veterans Consortium Advisory Committee, I submit herewith a request for a fiscal year 1999 appropriation of $865,000 for the Court of Veterans Appeals Pro Bono Program—a program for which the Consortium has, from inception, had operational responsibility. That amount would represent an increase of $75,000, or 9.49 percent, from the fiscal year 1998 appropriation of $790,000.

I understand that the Subcommittee has previously received our budget request, as an attachment to the fiscal year 1999 budget submission by Chief Judge Nebeker on behalf of the Court of Veterans Appeals; but for ease of reference I have also attached hereto as Exhibit A a copy of the document that was attached to that submission (bearing the title, The Veterans Consortium Pro Bono Program, fiscal year 1999 Budget and Narrative). The second attachment, Exhibit B, is a summary description of the history and operations of the Pro Bono Program. Also attached, as Exhibit C, is a statistical summary of the Program's operations since its commencement in September 1992.

The Program's budget for fiscal year 1999 contemplates total expenditures, including both the "A" grant and the "B" grant, and an allowance for the cost of oversight by Legal Services Corporation (LSC), of $863,479. That figure (which, I should point out, is over and above the contributions in kind by the organizations participating in the Consortium) is rounded to $865,000 in the fiscal year 1999 appropriation we have requested. A full explanation is presented in Appendix A; some highlights will be noted below, following brief mention of two notable events of the past year.

HIGHLIGHTS OF 1997

In August, 1997, the Program held a ceremony in the Hearing Room of the Senate Veterans' Affairs Committee to memorialize the placement of the Program's 1,000th case. That case involved the appeal of James Gaddis, who had won the Bronze Star as a lieutenant in the Army Signal Corps in Vietnam. The volunteer lawyers with whom the case was placed (who have already won a remand) were former Senators Robert Dole and George Mitchell; Senator Dole was with us for the ceremony.

The other notable event of the last year was a budgetary one: the Program managed to switch from a fiscal year corresponding to the Federal fiscal year to one coinciding with the calendar year, bringing it into alignment in this respect not only with all other recipients of grant funds through LSC, but also with its constituent organizations, all of which operate on a fiscal calendar year. This change should assure that the Program in the future will be able to operate comfortably during the annually recurring interim period between the time when LSC receives funds appropriated for the new federal fiscal year and the time when LSC is able in turn to dispense those funds—a lag time that has always been, in the Program's experience, a matter of weeks if not months. The change to a calendar-based fiscal year will also allow the Program to wind down its operations in an orderly fashion should the time come when no further funds are appropriated for it.

The Program was able to operate for the three months between the end of the previous federal fiscal year (September 30, 1997) and the start of its new calendar-based fiscal year (January 1, 1998) by reason of having, at fiscal year 1997 end, unexpended funds left over from previous years, in the amount of approximately $159,000. This was almost enough to fund the three months of operations remaining in the calendar year, though there was a shortfall of some $8,000, which NVLSP, one of the Consortium members, generously undertook to bear. In addition, PVA took on one more case than called for under the "B" grant, without charge to the Program. Thus, the Program commenced its 1998 fiscal year with no carryover unexpended funds whatever.

THE PROPOSED FISCAL YEAR 1999 BUDGET

The $865,000 appropriation requested for fiscal year 1999 represents a 9.49 percent increase over the $790,000 appropriation for fiscal year 1998. The Case Evaluation and Placement Component of the Program, which accounts for by far the majority of the budget, similarly accounts for the bulk of the increase, and that increase reflects the anticipated level of the Program's caseload. The upward trend is shown by pertinent statistics from the last two fiscal years. Thus,

—The Board of Veterans' Appeals, from which the appeals reaching the Court of Veterans Appeals are taken, issued 34,000 decisions in fiscal year 1996 and 43,000 in fiscal year 1997. (Exhibit A.)

—Total appeals filed in the Court during fiscal year 1996 were 1,561, of which 1,141 were pro se; the corresponding figures for fiscal year 1997 were 2,166 and 1,564, respectively. (Exhibit C.)

—Reflecting the increase in filings in the Court, there was a corresponding increase in the caseload of the Case Evaluation and Placement Component. Thus, it received 493 applications from pro se appellants in fiscal year 1996 but 700 in fiscal year 1997; an increase of 42 percent. The Component completed the evaluation of 468 cases in fiscal year 1996 and 689 cases in fiscal year 1997, but despite this greatly increased productivity, as of January 1998 it had accumulated a backlog of 170 pending requests for assistance. (Exhibit A.)

Thus, an increase in screening staff and of related expenses is clearly going to be necessary, and this is reflected in the proposed budget. In relation to the increase in workload, the budget increase is modest indeed—though, hopefully, not too modest.

The Veterans Consortium Advisory Committee is grateful for this Committee's consideration of our budget submission.

EXHIBIT A

THE VETERANS CONSORTIUM PRO BONO PROGRAM, FISCAL YEAR 1999 BUDGET AND NARRATIVE

OVERVIEW

The budgeted expenditures of $863,479 represent an increase of $73,479 (9.3 percent) over the $790,000 appropriation for fiscal year 1998, which governs the Program's operating budget for calendar year 1998. (The Program switched, effective January 1, 1998, from the federal fiscal year to a calendar year for operating purposes, so as to be synchronized with other recipients of funds from LSC). This increase reflects the projected continuing need to deal with a high volume of cases in the Case Evaluation and Placement Component, and an anticipated continuing increase in the number of BVA decisions and resulting appeals to the Court which will result in a corresponding increase in the Program's caseload.

The Pro Bono Program received 700 requests for assistance in fiscal year 1997, compared with 493 requests received in fiscal year 1996. Despite almost herculean efforts at evaluating cases in fiscal year 1997 (689 cases evaluated) versus fiscal year 1996 (468 cases evaluated), the Program currently (January 1998) has 170 pending requests for assistance. This increased demand for Program services can only be expected to continue to rise, as the number of decisions issued by the BVA increased dramatically in fiscal year 1997 (over 43,000 decisions, versus 34,000 decisions in fiscal year 1996).

Personnel costs.—Salary and benefits of those individuals performing services for the Program that are reimbursed from grant funds—account for 74.5 percent of the proposed budget (the same proportion as in the fiscal year 1998 budget), and 52 percent of the increase. Personnel costs cover a portion of the time for personnel who staff the Outreach and Education Components, and all of the time of most of the personnel who staff the Case Evaluation and Placement Component (the services of the other staff are provided free of charge to the Program). Staff who are reimbursed from grant funds, for all or a portion of their salary and benefits, are employees of either the National Veterans Legal Services Program (NVLSP) or the Paralyzed Veterans of America (PVA). Table A shows in summary form the number of persons providing services for each component, and the number of Full Time Equivalent (FTE) positions to be paid out of grant funds in fiscal year 1998 and fiscal year 1999.

PRO BONO PROGRAM PERSONNEL AND FTE DISTRIBUTION

Component	Total [1]	Total [2]	Total [3]
Outreach	6	0.21	0.26
Education	11	1.05	0.80
Case Evaluation and Placement	11	8.00	9.00
Total	28	9.26	10.06

[1] Number of personnel providing some service to the program.
[2] FTE reimbused by the grant, fiscal year 1998.

[3] FTE reimbursed by the grant, fiscal year 1999.

A fuller breakdown by Component follows.

Case Evaluation and Placement Component—$643,295

The fiscal year 1999 budget contemplates an increase of $67,912 (9.7 percent) over the fiscal year 1998 budget for the Case Evaluation and Placement Component (referred to in the budget spreadsheet as the "Screening Component"). Over 40 percent more cases were evaluated in fiscal year 1997 than in fiscal year 1996, which resulted in increased expenses for office supplies, photocopying, postage, telephone calls, etc. Those increased expenses were not provided for in the fiscal year 1998 budget.

PERSONNEL

There are three categories of personnel staffing this Component: lawyers, non-lawyer veterans law specialists, and support staff.

Two lawyers, the Director and the Deputy Director, function full time as such in the Case Evaluation and Placement Component; their personnel costs are fully reimbursed by the Program—one position each to PVA and NVLSP. The lawyer FTE for this Component reimbursed from grant funds, in both fiscal year 1998 and fiscal year 1999, is 2.0.

Veterans law specialists review the VA claims file and BVA decision to determine whether or not each case contains an issue that justifies referral to a lawyer. Veterans law specialists come from the constituent Veterans Service Organizations (VSO's) and are among the most experienced non-lawyer service officers these organizations have to offer.

It is planned that there will be five full time and one part time veterans law specialists (VLS) in the Case Evaluation and Placement Component in fiscal year 1999—two of these positions being supplied by PVA and one by NVLSP, on a reimbursable basis. We anticipate that two VLS positions will continue to be donated by Disabled American Veterans (DAV) and The American Legion. We also currently have a part-time VLS (one day per week) whose services were recruited by Vietnam Veterans of America (VVA), for which the Program pays only the employee parking expenses. The continued availability of this VLS is uncertain. VLS expenses have exceeded and will exceed amounts budgeted in fiscal year 1997 and fiscal year 1998, due to the relative seniority of VLS personnel assigned to the Program. We were able to accommodate these additional costs in fiscal year 1997, and can make similar adjustments in fiscal year 1998, by delaying the hiring of the third paid VLS until sometime in the second quarter of the calendar year. However, we have had to make adjustments for these increased cost in our fiscal year 1999 planning, and that explains why personnel costs increases appear to be above the norm.

There are three full time administrative support staff in the Case Evaluation and Placement Component, all employees of NVLSP, and all reimbursed out of Program funds.

The fiscal year 1999 budget reflects an increase of $39,603 in personnel costs, of which $15,432 represents the fiscal year 1997 and fiscal year 1998 personnel cost adjustments and $24,171 represents cost of living increases and merit raises. Efforts have been made to keep personnel costs as reasonable as possible; for example, only modest cost of living and merit raises have been given to staff in fiscal year 1998, despite the increased productivity of the Case Evaluation and Placement Component in fiscal year 1997.

The level of salaries and benefits paid to the personnel who staff the Program are governed by the personnel policies of the constituent organizations of which they are employees—i.e., NVLSP and PVA—and to which they may return in the event of termination of the Program or rotation of personnel by the organizations involved. Both NVLSP and PVA expect to increase their staff salaries up to 5 percent, of which 3 percent will be a cost of living increase and 2 percent will be allocated for merit raises. Increases are reflected in the personnel costs of all three Components of the Program in the fiscal year 1999 budget.

SPACE-RENT

In late fiscal year 1997, after the fiscal year 1998 budget was prepared, the Case Evaluation and Placement Component acquired additional office space. In addition to annual adjustments the Space-Rent line item has been adjusted to account for the increase in monthly occupancy expenses. The increase of $12,311 over the amount budgeted for fiscal year 1998 appears large because the fiscal year 1998 budget did not provide for the increased rent.

EQUIPMENT RENTAL AND MAINTENANCE

The Case Evaluation and Placement Component has budgeted for a modest increase of $273 over the amount budgeted for fiscal year 1998 based on actual experience in fiscal year 1997.

OFFICE SUPPLIES AND EXPENSES

The increase of $7,490 over the amount budgeted for fiscal year 1998 is based on actual experience in fiscal year 1997 and reflects the fact that the Program reviewed over 40 percent more cases in fiscal year 1997 than in fiscal year 1996.

TELEPHONE

The increase of $1,435 over the amount budgeted for fiscal year 1998 is based on actual experience in fiscal year 1997 and also reflects the Program having reviewed over 40 percent more cases in fiscal year 1997 than in fiscal year 1996.

TRAVEL/CONTINUING LEGAL EDUCATION

The increase of $500 is budgeted to cover anticipated travel expenses and to allow staff to participate in Continuing Legal Education Programs.

LIBRARY

The increase of $570 is budgeted to acquire new materials for the library and subscribe to publications that we have not had access to in the past.

INSURANCE

The decrease of $2,000 represents savings we expect to realize through renegotiation of our malpractice insurance.

PROPERTY ACQUISITION

The increase of $5,000 is to cover the cost of a new printer (one of two that the Case Evaluation and Placement Component has). When the Component's computers were replaced last year, the printers were not. Now our principal laser printer is starting to cost us more money in repair expenses, and will need to be replaced.

CONTRACT SERVICES

The increase of $3,000 is to cover the costs of completing the Year 2000 transition for our databases, and to develop an on-line legal research capability, including access to the Court's Bulletin Board.

Outreach Component—$31,181

Overall, the fiscal year 1999 budget calls for a $6,024 increase (24 percent) over the fiscal year 1998 budget for the Outreach Component. As indicated below, all but $687 of the increase is in personnel costs.

PERSONNEL

These costs are budgeted to increase by $5,337 because we anticipate a continued increase in recruiting needs. We assume that the need for volunteer lawyers in fiscal year 1999 will continue to increase because of the anticipated increase in the number of BVA decisions; the budget also assumes that the Program will continue and expand its outreach efforts outside of the Metropolitan area. As previously discussed, we expect personnel costs to increase by 5 percent. (Note that while this Component's personnel costs are increasing, we are decreasing the Education Component's personnel costs by $5,064 from the fiscal year 1998 budget.)

Three NVLSP lawyers devote a portion of their time to the Outreach Component; and the Program reimburses NVLSP for that portion of their personnel costs. The aggregate lawyer FTE for the Outreach Component to be reimbursed from grant funds in fiscal year 1998 is 0.07; the FTE contemplated for fiscal year 1999 is 0.14 to reflect, in part, the actual experience in fiscal year 1997.

Three NVLSP non-lawyers also function for part of their time in the Outreach Component; and the Program reimburses that portion of their personnel cost to NVLSP. The aggregate non-lawyer FTE for the Outreach Component budgeted to be reimbursed from grant funds in fiscal year 1998 is 0.14; the FTE contemplated by the fiscal year 1999 budget is reduced to 0.12.

Only minor adjustments were made in the other line items and the net result of these adjustments increase the budget by $687 over the fiscal year 1998 budget.

Education Component—$125,303

The proposed fiscal year 1999 budget for the Education Component reflects a decrease of $3,242 from the budget for fiscal year 1998.

PERSONNEL

Personnel costs are projected to decrease by $5,064. Our experience has shown that we are spending less time than projected on the Education Component and more time on the Outreach Component. Therefore, we adjusted the personnel costs for this component downward accordingly.

A total of 6 NVLSP lawyers function in the Education Component and a portion of their personnel costs is reimbursed by the Program. The aggregate lawyer FTE expected to be reimbursed from the Program has been reduced from 0.51 in fiscal year 1998 to 0.40 in fiscal year 1999

Four NVLSP non-lawyers function in the Education Component. All four of them will have a portion of their personnel expenses reimbursed by the Program. Both the Grant Administrator's time and the Administrative Assistant's time have been reduced from the fiscal year 1998 level. We expect that the audit and contract reporting will be more routinized in fiscal year 1999 than in fiscal year 1998. Fiscal year 1998 is the first year that the Program will undergo an A–133 audit. Additionally, there will be a higher level of personnel expense in the first quarter of fiscal year 1998 as the Grant Administrator position is transitioned from an NVLSP contract consultant to NVLSP's newly hired Chief Financial Officer. The aggregate FTE non-lawyer for the Education Component budgeted to be reimbursed from grant funds in fiscal year 1998 is 0.51, for fiscal year 1999 we are reducing it to 0.40.

OTHER

Combined non-personnel expenses are expected to increase by a total of $1,822, from $39,472 in fiscal year 1998 to $41,294 in fiscal year 1999. This represents a five-percent increase and is based on prior year's experience.

"B" Grant—$38,700

The "B" Grantee (PVA) has committed to accepting 20 cases at a cost of $1,935 per case; representing a 5-percent increase over the fiscal year 1998 budget figure of $1,843 per case; and reflects a reduction from the total number of cases (24) budgeted in fiscal year 1998.

LSC Oversight—$25,000

This is the figure LSC has furnished as its estimate of the likely cost of oversight for fiscal year 1999. LSC also expects that the budgeted figure of $20,000 for fiscal year 1998 will prove to be low.

Total—$863,479

Veterans Consortium Pro Bono Program
FY 1999--Proposed Budget

		Outreach FY 99	Education FY 99	Screening FY 99	Proposed Budget 01/01/99-12/31/99	Outreach FY 98	Education FY 98	Screening FY 98	FY '98 Budget 01/01/98-12/31/98	Projected Variance FY 99 over FY 98	% of Increase or Decrease
Salaries - Attorneys	1	12,917	51,655	140,503	205,075	7,754	47,598	135,006	190,358	14,717	7.73%
Salaries Non-attorney representatives	2	0	0	171,285	171,285	0	0	149,749	149,749	21,536	14.38%
Salaries - Administration & Support	3	6,007	18,262	89,052	113,321	7,545	25,985	86,017	119,547	(6,226)	-5.21%
Employee Benefits	4	4,962	14,092	122,187	141,241	3,250	15,490	112,652	131,392	9,849	7.50%
Total Personnel		23,886	84,009	523,027	630,922	18,549	89,073	483,424	591,046	39,876	6.75%
Space - Rent	6	2,500	10,619	69,000	82,119	2,003	9,654	56,689	68,346	13,773	20.15%
Equipment Rental & Maintenance	9	315	1,575	5,736	7,626	300	1,500	5,463	6,953	673	9.68%
Office Supplies & Expense	10	1,600	4,900	14,400	20,900	1,500	4,500	7,180	13,180	7,720	58.57%
Telephone	11	300	900	8,612	9,812	280	818	7,177	8,275	1,537	18.57%
Travel/Continuing Legal Education	12	150	500	3,000	3,650	150	500	2,500	3,150	500	15.87%
Library	15	200	1,500	3,420	5,120	200	1,500	2,850	4,550	570	12.53%
Insurance	16	250	1,000	2,000	3,250	250	1,000	4,000	5,250	(2,000)	-38.10%
Dues and Fees	17	75	300	100	475	75	300	100	475	0	0.00%
Audit	18	750	3,200	4,000	7,950	750	3,200	4,000	7,950	0	0.00%
Property Acquisition	19	0	0	5,000	5,000	0	500	0	500	4,500	900.00%
Contract Services to Applicant	21	0	0	5,000	5,000	0	0	2,000	2,000	3,000	150.00%
Other	22	1,155	16,800	0	17,955	1,100	16,000	0	17,100	855	5.00%
Total Non-Personnel		7,295	41,294	120,268	168,857	6,608	39,472	91,959	138,039	30,818	22.33%
Total "A" Grant		31,181	125,303	643,295	799,779	25,157	128,545	575,383	729,085	70,694	9.70%
"B" Grant		20 CASES @ $1,935/CASE			38,700	24 CASES @ $1,843/CASE			44,232	(5,532)	-12.51%
LSC Oversight					25,000				20,000	5,000	25.00%
Grand Total					863,479				793,317	70,162	8.84%

EXHIBIT B

THE HISTORY AND OPERATIONS OF THE PRO BONO PROGRAM AT THE U.S. COURT OF VETERANS APPEALS

The Program was proposed by the Court of Veterans Appeals in 1991, as a means of dealing with the problem presented by the fact that the Court was finding that the overwhelming majority of appellants appearing before it were pro se—that is, without representation. Congress authorized the Court to use up to $950,000 of its funds to establish a project for the provision of legal assistance to pro se appellants. Public Law 102–229, 105 Stat. 1710 (1991). The authorizing legislation specifically provided that the Legal Services Corporation (LSC) would make the grants or contracts for such a program, "pursuant to a reimbursable payment" by the Court. LSC in May 1992 issued two Solicitations for Proposals: one for an umbrella program to evaluate cases and to recruit and train volunteer attorneys (the "A" grant); and one for organizations already providing representation to veterans to expand such representation (the "B" grant). The Consortium, which consists of The American Legion, Disabled American Veterans (DAV), Paralyzed Veterans of America (PVA) and National Veterans Legal Services Program (NVLSP), submitted a proposal to LSC for the "A" grant that was accepted. Three of the participating organizations, DAV, PVA and NVLSP (plus another organization, Swords to Plowshares, which has since dropped out of the Program), were awarded "B" grants, under which they undertook to provide representation in a specified number of cases. The two grants together comprise the Program, which commenced operation in September 1992.

The Program has three operational components: Outreach, Education, and Case Evaluation and Placement. The first of these components recruits volunteer lawyers to handle appeals before the Court on a pro bono basis: over 800 lawyers, from more than 40 jurisdictions, have been recruited to date. The Education Component offers two one-day training programs in Washington, D.C., each year in conjunction with the D.C. Bar. It offered the training program in Atlanta in the Fall of 1997, and will be doing the same in Chicago in the Spring of 1998. The training program is also made available in the form of videotapes to lawyers who cannot attend a live presentation. In addition, the Education Component provides to each volunteer lawyer a three-volume Veterans Benefits Manual.

The Case Evaluation and Placement Component, as the name suggests, evaluates the cases of appellants who are pro se and who, in response to a notice routinely sent to those appellants who remain pro se thirty days after filing of their notice

of appeal, indicate an interest in having representation. In any case where this evaluation turns up an issue deserving argument, a memorandum describing the issue is prepared, and the case is assigned to a lawyer who has agreed to provide pro bono representation. (The great majority of the Program's cases are placed with volunteer lawyers recruited and trained by the Program's Outreach and Education Components; a minority, consisting of more difficult or emergency cases, are placed through the "B" grant.) In cases that are determined not to merit pursuit of an appeal, the appellants are advised as to the most promising course of action for them to pursue.

The volunteer lawyers are provided continuing education in the form of mentoring assistance: that is, they are given the name of a lawyer (or non-lawyer Court of Veterans Appeals practitioner) in one of the constituent organizations, with whom they can consult as needed. The Case Evaluation and Placement component also monitors all cases referred to program lawyers, to ensure that filing deadlines are not overlooked.

The table that follows, Exhibit C, presents some significant statistical information regarding appeals to the Court, and the impact of the Program thereon. As it shows, over the 5½ years of its operation, the Program has provided free representation to more than 1,000 appellants before the Court; and the appellants represented through the Program have prevailed in 77 percent of the completed cases.

EXHIBIT C

STATISTICAL SUMMARY OF THE PRO BONO PROGRAM AT THE U.S. COURT OF VETERANS APPEALS

	(9/1/92 - 9/30/93) FY93	(10/1/93 - 9/30/94) FY94	(10/1/94 - 9/30/95) FY95	(10/1/95 - 9/30/96) FY96	(10/1/96 - 10/31/97) FY97	(10/1/97 - 12/31/97) FY98*	PROGRAM TOTAL
Total Appeals Filed at CVA **	1,265	1,148	1,204	1,561	2,166	524	7,868
Appeals Filed Pro Se **	1,044	918	957	1,141	1,564	409	6,033
Pro Bono Program Application Forms Sent	853	646	812	936	1,329	368	4,944
Veterans Who Filed Applications For Program Consideration	580	450	609	493	700	188	3,020
Veterans Who Received Free Attorney	231	187	201	181	252	45	1,097
Veterans Who Received Some Form of Legal Assistance (but no representation due to program ineligibility)	343	262	327	287	437	123	1,779
Percent of Program Eligible Veterans Who Received Representation	100%	100%	100%	100%	100%	100%	100%
Program Cases Completed During Fiscal Year ***	52	147	199	156	176	29	759
Program Cases In Which VA Error Found ***	45	112	158	125	122	20	582
Percent Of Cases In Which Veteran Prevailed In Litigation Through Program Efforts	86.5%	76.2%	79.4%	80.1%	69.3%	69.0%	76.7%
Recruited attorneys who have received training.****	236	108	120	152	143	107	866

NOTE: Figures subject to minor revision.

* This quarter represented the transition period as the Program shifted from a fiscal to a calendar year basis.

** Figures supplied by the Clerk of Court.

*** Figures do not include cases where representation was declined by the appellant, nor cases where the appellant died during pendency of appeal.

**** Does not include 109 attorneys for whom training was waived.

LIST OF WITNESSES, COMMUNICATIONS, AND PREPARED STATEMENTS

Page

American Association of Homes and Services for the Aging, prepared statement 784
American Heart Association, prepared statement 789
American Museum of Natural History, prepared statement 673
American Public Power Association, prepared statement 650
American Society of Civil Engineers, prepared statement 738
Anthes, Richard A., president, University Corporation for Atmospheric Research, prepared statement 754
Archuleta, Ed, general manger, El Paso Water Utilities Public Service Board, prepared statement 714
Armstrong, Michael, Associate Director, Mitigation Directorate, Federal Emergency Management Agency 1
Association of State Dam Safety Officials, prepared statement 742

Bad River Band of Lake Superior Chippewa, prepared statement 692
Baker, Michael G., Ohio Environmental Protection Agency, Columbus, OH, letter from 725
Barnes, Mayor Martin G., city of Paterson, NJ, prepared statement 697
Bolin, Dave, president, Groundwater Protection Council, prepared statement 722
Bond, Hon. Christopher S., U.S. Senator from Missouri, questions submitted by 29, 245 375, 609
Boone, Linda, executive director, National Coalition for Homeless Veterans, prepared statement 795
Bowen, Jerry W., Director, National Cemetery System, Department of Veterans Affairs 169
Boxer, Hon. Barbara, U.S. Senator from California:
Prepared statement 8
Questions submitted by 52
Browner, Carol, Administrator, Environmental Protection Agency 331
Prepared statement 345
Burke, Dr. William A., chairman, South Coast Air Quality Management District, prepared statement 727
Burns, Chuck, national service director, AMVETS, prepared statement 788
Burns, Hon. Conrad, U.S. Senator from Montana:
Prepared statement 338
Questions submitted by 454, 627
Bursell, Dr. Sven-Erik, Ph.D., Joslin Diabetes Center, prepared statement 690
Bye, Dr. Raymond E., Jr., associate vice president for research, Florida State University, prepared statement 762

Cagey, Henry, chairman, Lummi Indian Nation, prepared statement 763
Campbell, Hon. Ben Nighthorse, U.S. Senator from Colorado:
Prepared statements 175, 337
Questions submitted by 487
Campion, Raymond J., Ph.D., president, Mickey Leland National Urban Air Toxics Research Center, prepared statement 678
Catlett, D. Mark, Acting Assistant Secretary for Management, Department of Veterans Affairs 169
Church, Dr. Roy A., president, Lorain County Community College, prepared statement 793
City of Miami Beach, FL, prepared statement 648

Page

Clark, Les, vice president, Independent Oil Producers' Association, prepared statement 658
Cobb, Richard P., ILL, Springfield, IL, letter from 725
Cole, Barbara J., director, Lane Regional Air Pollution Authority, prepared statement 708
Collins, Father T. Byron, S.J., special assistant to the president of Georgetown University, prepared statement 686
Craig, Hon. Larry, U.S. Senator from Idaho:
Prepared statements 9, 178
Questions submitted by 39, 263, 286, 491
Crawford, James L., Mississippi Department of Environmental Quality, Office of Pollution Control, Jackson, MS, letter from 724
Cunha, Manuel, Jr., president, NISEI Farmers League, prepared statement 658
Cuomo, Andrew, Secretary, Department of Housing and Urban Development 93
Prepared statement 105

Davenport, Robert J., executive director, Passaic Valley Sewerage Commissioners, prepared statement 713
DeAlmeida, Lino, Jr., president, National Utility Contractors Association, prepared statement 732
Delaney, Mayor Bruce, city of Gainesville, FL, prepared statements 647, 746

Foley, Maj. Gen. Robert F., Commander, Military District of Washington, Cemeterial Expenses, Army, Department of Defense—Civil 277
Fox, Dr. Peter, research project manager, Arizona State University, prepared statement 686
Frank, Billy, Jr., chairman, Northwest Indian Fisheries Commission, prepared statement 682

Garner, Mayor James, village of Hempstead, Long Island, prepared statement 711
George, Father William L., S.J., special assistant to the president of Georgetown University, prepared statement 686
Goldin, Daniel S., Administrator, National Aeronautics and Space Administration 287
Prepared statement 292
Gorosh, Kathye, project director, the Core Center, Chicago, IL, prepared statement 757
Grant, Glen A., Esq., business administrator, city of Newark, NJ, prepared statement 760

Hagel, Hon. Chuck, U.S. Senator from Nebraska, question submitted by 557
Hansen, Fred, Deputy Administrator, Environmental Protection Agency 331
Harper, Sallyanne, Acting Chief Financial Officer, Environmental Protection Agency 331
Hawks, John D., Under Secretary for Domestic Finance, Community Development Financial Institutions Fund, Department of the Treasury 155
Prepared statement 156
Humphreys, Mayor Kirk, city of Oklahoma City, prepared statement 715

Isbell, David B., chair, Veterans Consortium Advisory Committee, prepared statement 799

Johnson, Gary, Chief Financial Officer, Federal Emergency Management Agency 1
Jones, Kerri-Ann, Ph.D., Acting Director, Office of Science and Technology Policy, Executive Office of the President 589
Prepared statement 590

Kaatz, Gary, chief operating officer, Forum Health, prepared statement 698
Kelley, Rev. Aloysius, S.J., president, Fairfield University, prepared statement 775
Kenny, Michael P., executive officer, California Air Resources Board, prepared statement 658
Kirk, Ken, Association of Metropolitan Sewerage Agencies, Washington, DC, letter from 730

Page

Kizer, Kenneth W., M.D., M.P.H., Under Secretary for Health, Veterans Health Administration, Department of Veterans Affairs 169
Kleine, Mary Ann, director of administration, Gold Gate University, prepared statement 778

Lane, Neal, Ph.D., Director, National Science Foundation 559
Prepared statement 582
Lautenberg, Hon. Frank R., U.S. Senator from New Jersey, questions submitted by 545
Lazar, Ellen W., Director, Community Development Financial Institutions Fund, Department of the Treasury 155
Prepared statement 159
Leahy, Hon. Patrick J., U.S. Senator from Vermont, questions submitted by 543
Lee, Virgo, trustee, NYU Downtown Hopsital, prepared statement 703

Mason, Dr. Robert J., director, Environmental Lung Center, National Jewish Medical and Research Center, Denver, CO, prepared statement 688
Mauderly, Joe L., senior scientist and director of external affairs, Lovelace Respiratory Research Institute, prepared statement 651
Maulson, Tom, tribal chairman, Lac du Flambeau Band of Lake Superior Chippewa Indians, prepared statement 695
Mendell, Lorne M., Ph.D., Society for Neuroscience, prepared statement 769
Metzler, John C., Jr., Superintendent, Arlington National Cemetery, Cemeterial Expenses, Army, Department of Defense—Civil 277
Mikulski, Hon. Barbara, U.S. Senator from Maryland, questions submitted by..... 41, 264, 516, 634
Munger, Hon. Willard M., Minnesota State Representative, memorandum from 668

Nellor, Margaret H., research project manager, Los Angeles County Sanitation Districts, prepared statement 686
New York University, prepared statement 766
Norris, Peter M.P., president, SPIN–2, prepared statement 777

O'Brien, Terrence J., president, Metropolitan Water Reclamation District of Great Chicago, prepared statement 649
Ott, Dr. W. Richard, provost, Center for the Engineered Conservation of Energy, Alfred University, prepared statement 707
Ouchley, Don, general manager, Brownsville Public Utilities Board, prepared statement 712

Paskinski, Theodore, president, St. Joseph's Hospital Health Center, prepared statement 773
Patrick, Barbara, member, board supervisor, Kern County and member, California Air Resources Board, prepared statement 658
Peacock, Robert B., chairman, Fond du Lac Band of Lake Superior Chippewa, prepared statement 660
Peterson, Malcolm L., Comptroller, National Aeronautics and Space Administration 287
Prepared statement 292
Pillsbury, Sarah, Department of Environmental Services, Concord, NH, letter from 726
Polf, William, deputy vice president for external relations and strategic programs, Health Sciences Center, Columbia University, prepared statement ... 699

Raabe, Otto, professor emeritus of radiation biophysical, University of California, prepared statement 700
Rapp, George R., Jr., University of Minnesota-Duluth, Duluth, MN, prepared statement 668
Reheis, Catherine H., managing coordinator, Western States Petroleum Association, prepared statement 658
Rice, Patrick W., State of Nebraska, Department of Environmental Quality, Lincoln, NE, letter from 726
Roitman, Howard A., Association of State and Territorial Solid, Waste Management Officials, Washington, DC, letter from 733

Schlender, James H., executive administrator, Great Lakes Indian Fish and Wildlife Commission, prepared statement 693

Page

Shelby, Hon. Richard C., U.S. Senator from Alabama, questions submitted by 474
Smith, Rory D., Budget Officer, Arlington National Cemetery, Cemeterial Expenses, Army, Department of Defense—Civil 277
Society of Toxicology, prepared statement 705
Stetson, Catherine Baker, Stetson Law Offices, P.C., Albuquerque, NM, prepared statement 772
Stevens, Hon. Ted, U.S. Senator from Alaska, questions submitted by 631
Sublette, Kerry L., Sarkeys professor of environmental engineering, University of Tulsa, director, Integrated Public/Private Energy & Environmental Consortium, prepared statement 654

Thompson, Joseph, Under Secretary for Benefits, Veterans Benefits Administration, Department of Veterans Affairs 169
Tornblom, Claudia, Acting Deputy Assistant Secretary (Management and Budget), Cemeterial Expenses, Army, Department of Defense—Civil 277

University of Medicine and Dentistry of New Jersey, prepared statement 747
University of Miami, prepared statement 736

Waller, Dave, Missouri Rural Water Association, prepared statement 718
Water Environment Research Foundation, prepared statement 684
West, Togo D., Jr., Acting Secretary, Department of Veterans Affairs 169
Prepared statement 182
Witt, James Lee, Director, Federal Emergency Management Agency 1
Prepared statement 11
Wodraska, John R., general manager, Metropolitan Water District of Southern California, prepared statement 670
Wofford, Hon. Harris, Chief Executive Officer, Corporation for National and Community Service 55
Prepared statement 57

Zare, Richard, Ph.D., Chairman, National Science Board, National Science Foundation 559
Prepared statement 565
Zaterman, Sunia, executive director, Council of Large Public Housing Authorities, prepared statement 780
Zirschky, John H., Acting Assistant Secretary of the Army (Civil Works), Cemeterial Expenses, Army, Department of Defense—Civil 277
Prepared statement 278

SUBJECT INDEX

CORPORATION FOR NATIONAL AND COMMUNITY SERVICE

Page

America Reads and literacy 74
Auditability, progress in achieving 67
Auditable financial records, plan to produce 56
Devolution to States 74
Evaluation and effective practices 68
Further evaluations 70
Inspector general, questions for the 90
National service programs:
    Addressing literacy, example of 87
    Monitoring of 72
Programs not renewed 73
Record, correction to the 71
Reducing costs and the education-award-only program 89
Requests of the committee 57

DEPARTMENT OF DEFENSE—CIVIL

CEMETERIAL EXPENSES, ARMY

Budget highlights 278
Computer systems 285
Contracting out 283
Elibility criteria 284
Expansion 277
Lieutenant Blassie 284
Transfer of responsibility 282

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Affordable housing 148
Assisted grant programs 146
Budget, highlights of 104
Department, cleaning up the 101
Disabled, housing for the 120
Economic development 116, 117
    Initiative 149
    Issues important to 98
    Needs 100
Elderly housing, new and innovated approaches to 151
Emergency supplemental:
    Disbursement of 139
    Provided HUD 138
Fair Housing Act, implementing the 98
Financial information systems 145
Fiscal year 1997 emergency supplemental 96
Fiscal year 1999 budget 102
Forest Services' moratorium on building roads 144
HOME block grant plus vouchers 152
Home ownership 104
HOPE VI 122
Housing 103
    For the elderly 149, 153

Page

Housing—Continued
Need and production 117
HUD, excellent vision for a new 102
Indian country 146
Housing funds for 145
Largest financial institution 95
Mark-to-Market legislation 95, 100
McKinney Homeless Continuum of Care programs 96
Necessary reforms 101
Old inner beltway communities 152, 153
President's budget request 93
Public housing authorities:
Issuance by the 116
Reforming the 137
Public Housing Drug Elimination Program 127
Reserve account 103
No leasing against 103
Section 8 account 117
2020:
Management Reform Program 94
Plan 120
Unsubsidized housing 99

DEPARTMENT OF THE TREASURY

COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND

Awards process, assuring the 164
CDFI:
Is a high priority program 155
Making significant strides 158
Program:
Achieves goals 165
Success of 164
Fiscal year 1999 budget request 159
Fund in review 156
Goals 166
Management requirements, unable to meet 165
Stimulating private markets 158

DEPARTMENT OF VETERANS AFFAIRS

Access to care 240
Fiscal year 1999 budget request 171
Medical:
Collections 191
Facilities, closing 241
Research 245
Medicare subvention 236
Patient costs, reducing 239
Processing:
Claims 236
Compensation claims 237
Tobacco-related claims, processing 238, 239
VBA's road map to excellence 238
Veterans equitable resource allocation 243
Workload increases, monitoring 244

ENVIRONMENTAL PROTECTION AGENCYFIRST

365
Animal feeding operations 362
Authority to regulate 365
Draft strategy 374
Regulation: focus on large operation .....
Stakeholder involvement 363
Base realignment and closure 352
Clean water:
Action plan 359

Page

Clean water—Continued
Action plan—Continued
Vs. clean water State revolving fund funding 364
State revolving fund funding level 359
Data quality 347
Chief information officer role 348
Edison lab 357
Final cleanup, sites ready 357
Fiscal year 1999 President's budget 355
Food quality 338
Food Quality Protection Act:
Chemical registration 370
Coordination between EPA and USDA 371
Measurement of risk 371
National Environmental Performance Partnership System 373
National Rural Water Association [NRWA] grant 372
Particulate matter:
Monitors request 369
National Academy of Sciences report 366
Research request 367
Regional haze:
Particulate matter monitors 352
Visibility research 353
Sector facility indexing 358
Ship breaking 349
Superfund cleanup, slowed 356
Water quality: Federal agencies' roles 361

EXECUTIVE OFFICE OF THE PRESIDENT

Office of Science and Technology Policy

Educating for the future 602
Information technology and private sector linkages 601
Knowledge and distributed intelligence 600
National Science and Technology Council 590
NSF:
Budget priorities 597
Interaction with Department of Education 603
Major policy issues facing 598
Research:
Expanding opportunities for participation in 608
Relationship with private sector 601
Themes 599
OSTP, responsibilities of 589
Plant and human genome research, interaction of 606
Plant genome initiative 604
Coordination of 607
Focus on 605
On the environment, effect of 606
President's Committee of Advisors on Science and Technology 590

FEDERAL EMERGENCY MANAGEMENT AGENCY

Bosnia amendment, budgetary source for 21
Buyouts, importance of 9
California hazard mitigation grants 22
Community development block grants 15
Dam safety 2, 26
Declaration criteria 27
Disaster costs, ways to reduce 26
Disaster relief:
Burgeoning cost of 2
Cost containment in 3
Fund 14
Loans versus grants for 6
Federal terrorism efforts, FEMA's role in 17
Flood predictions 21

Page

Hazard mitigation grant program 21
Hazard mitigation grants, time limit for 22
Mudslides 27
Municipal facilities, insurance requirements for 28
National Association of Counties 18
Natural disaster reduction initiative 16
Predisaster mitigation:
  Criteria 4
  Efforts, results of 23
  Objective criteria for 25
  Support for 24
Project impact, technical assistance for 24
Terrorist attacks, preparedness for 16

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Boeing contract, status of 314
Chabrow report 317
Downsizing, effects of 326
Iranian missile technology 317
NASA:
  Future funding of 327
  Senator Bumpers support for 323
Russian:
  Commitments 315
  Delays increases cost overruns 320
  Honoring their space commitment 316
Service module 320
Space station:
  Cost overruns 321
  Launches 319
  Proceeding with the 319
  Science 324
  Total cost 313
  Useful life expendency of 325
Transfer authority 325
Uncosted carryovers 328
Y2K problem 327

NATIONAL SCIENCE FOUNDATION

Knowledge and distributed intelligence, investment in 581
Nanotechnolgoy 581
National Science Board's roles 564
Plant genome research initiative 580

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