

**ENERGY AND WATER, AND RELATED AGEN-
CIES APPROPRIATIONS FOR FISCAL YEAR
2006**

THURSDAY, APRIL 14, 2005

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

The subcommittee met at 2:07 p.m., in room SD-124, Dirksen Senate Office Building, Hon. Pete V. Domenici (chairman) presiding.

Present: Senators Domenici, Allard, and Feinstein.

DEPARTMENT OF ENERGY

NATIONAL NUCLEAR SECURITY ADMINISTRATION

**STATEMENT OF AMBASSADOR LINTON F. BROOKS, UNDER SEC-
RETARY AND ADMINISTRATOR, NUCLEAR SECURITY**

ACCOMPANIED BY:

**ADMIRAL KIRKLAND DONALD, DEPUTY ADMINISTRATOR, NAVAL
REACTORS**

**DR. EVERET BECKNER, DEPUTY ADMINISTRATOR, DEFENSE PRO-
GRAMS**

**KENNETH BAKER, PRINCIPAL DEPUTY ADMINISTRATOR, DEFENSE
NUCLEAR NONPROLIFERATION**

OPENING STATEMENT OF SENATOR PETE V. DOMENICI

Senator DOMENICI. The hearing will please come to order. The subcommittee is going to take testimony on the fiscal year 2006 budget request from the National Nuclear Security Administration. I changed the process from the previous hearing so we'll be able to have more opportunity to ask questions.

For this hearing, we'll take testimony from the Administrator, Ambassador Linton Brooks. Ambassador Brooks is joined by his deputies, who can respond to questions, and they are Deputy Administrator for Naval Reactors, Admiral Kirkland Donald—thank you very much—

Admiral DONALD. Yes, sir.

Senator DOMENICI [continuing]. Deputy Administrator for Defense Programs, Dr. Everet Beckner; and Ken Baker—good to see you here—Principal Deputy Administrator for Defense Nuclear Nonproliferation. Thank you very much.

Admiral Donald, this is your first visit to the subcommittee. I want you to know that we appreciate your willingness to participate, and it's always a pleasure to have you here.

Dr. Beckner, I understand that you have announced your retirement, effective at the end of the month. Obviously, that day had to come, but, for everybody that knows what you've done, it's a good day for you and your wife, but not a good day for us. Between 1962 and 1990, you served in a variety of senior leadership positions at Sandia Laboratories; and, since leaving the lab, you've worked at Lockheed Martin, served at two positions in the Department of Energy; and, between 1991 and 1995, you served as Principal Deputy Assistant Secretary for Defense Programs. And since 2002 you've served as Deputy Administrator for Defense Programs at NNSA. So, I understand that it's time for you to leave, and certainly I understand that, if I have it right, that you probably are going to return to New Mexico for your retirement.

Dr. BECKNER. That's correct.

Senator DOMENICI. And then I would think it's fair to say that, at that point, I will be representing you.

Dr. BECKNER. That's correct.

Senator DOMENICI. I don't know, maybe you voted, absentee before.

In any event, you may be having a chance to vote for me in person. Who knows? But I want to thank you for that 40 years of service, which I think has been exemplary.

FISCAL YEAR 2006 BUDGET REQUEST

Now, the fiscal year 2006 budget, the President has requested \$9.4 billion, for an increase of 2.5 percent from the current-year funding level of \$9.1 billion. So, while that's not a lot as a percentage, this is a considerable increase above the 2 percent cut in discretionary funding for the Department of Energy, as a whole.

The President's budget reflects an increase of 15 percent, or \$215 million, for the Office of Nuclear Nonproliferation, which offsets a slight decrease, Admiral, in the Naval Reactor Program—

Admiral DONALD. Yes, sir.

Senator DOMENICI [continuing]. Of 1.9 percent, as I understand it.

Admiral DONALD. Yes, sir.

Senator DOMENICI. And the Office of the Administrator, 3.7 percent, negative—no, that's the Administrator's weapons—your weapons activity. And, let's see, the weapons activity has received a 0.7 percent increase, I'm sorry; and the Office of the Administrator is -3.7.

The administration has made a number of policy decisions in this bill that I would like to address, just quickly, but individually. I have spoken to you, Mr. Ambassador, about some of them.

FUTURE OF THE WEAPONS PROGRAM

First, this budget proposes a significant cut to NNSA over the next 5 years, as compared with the 2005 request. The majority of the cuts seem to come from the weapons program—they're mostly in the out years, so I say "seem to"; they're not binding at this point—which is a \$3 billion reduction. This is the third annual De-

fense program budget, and the budget also cuts facilities, the recapitalization, for \$750 million. I should have said the \$3 billion reduction is a third of the annual Defense budget. The \$3 billion reduction in the NNSA program is unsustainable, in my opinion, with the current NNSA complex. Now, that doesn't mean that my assumption is a necessity, but it's unclear as to where the cuts will be applied, and I am deeply concerned that scientific capability of the laboratories, which is sometimes overlooked, will be significantly affected, on the negative side.

Ambassador Brooks, I read a number of press articles about your testimony before the Armed Services Committee regarding your vision of the weapons program out into the future. I think your comments before the committee are more informative about NNSA's budget priorities than the testimony that you've submitted here today, but I would be glad for you to explain that, later on. I would ask that your statement of April 4 be made a part of the record, so everybody will have it.

This vision that you've laid out is going to require a substantial investment in NNSA's capability and infrastructure. Simply put, your vision is not supported by the future budgets. Seems like they run into each other, and one goes up and the other comes down.

The long-term impacts of the proposed budget will leave your complex with a very shallow scientific capability, housed in old facilities, which we've just gone to some great lengths to try to make current. And you've been part of helping with that. I would agree they haven't been done in an overall plan, but clearly the most uninhabitable buildings have been replaced, and that's because we insisted, up here, and you all were willing to do that.

So, I don't see how we can maintain the existing capability and reinvent the weapons program to design, build, and deploy weapons in—by 2012 and 2015—that are described in your testimony, that you can elaborate upon here today.

RELIABLE REPLACEMENT WARHEADS

The testimony you gave before the Committee of Armed Services laid out a plan. In my opinion, it exceeds the political support here on Capitol Hill, unless the reports of what you said are not what you mean. Your comments that I've identified indicate that DOD has identified, and I quote, "no requirements for such weapons." Your testimony made broad assumptions about the Reliable Replacement Warheads. That's called RRW. That initiative is—at least there's an indication that it is there to develop new weapons. And I hope you will dispel that today. And I see your testimony does that; I just want to go over that more than one time.

The RRW—and I say to my friend, the new member from Colorado, this Reliable Replacement Warhead actually came from this committee. It was not a request from the administration. We were asked by those who were involved in science-based stockpile stewardship, as it pertains to ingredients that make up the nuclear weapons—they asked us to put in something that would give them authority to do research on replacement parts, and—in many respects; so they might be lighter, so they'd be safer, so they'd be more durable. So we—that was put in here to achieve stockpile transformation. Strike that. It wasn't for transformation; it was for

stewardship maintenance. So, we need to make sure that that's clearly understood and that there's no misunderstanding on the part of Senators as to what it meant and what you intend to use it for.

Incidentally, it's not a whole bunch of money, so it surely is not to build a—it's \$9 million, so, as you know, Mr. Ambassador, that's got to be a very small amount if we're talking about a very significant change.

ROBUST NUCLEAR EARTH PENETRATOR

Now, the weapon research, the policy decisions that is likely to attract attention will be the Department's commitment to a study of so-called Robust Nuclear Earth Penetrators. The budget provides for \$4 million in 2006, and \$14 million in 2007. This is, from what I can tell, not part of a planned funding, beyond the completion of the study. So when we get approached on this, we're going to have to have your assurance that you aren't doing this with the idea that a plan to use it for building a new weapon is part of this. That's a separate issue for the Department and the Congress, later on.

NATIONAL IGNITION FACILITY

Now, there's one monster program, in terms of dollars, that we might as well talk about, and that's NIF, the National Ignition Facility, that you operate out in California at the nuclear laboratory there. I notice that you have refocused efforts on NIF, with the goal of achieving final results by 2010. Is that correct?

Dr. BECKNER. Yes, sir.

Senator DOMENICI. This budget cuts a lot of relevant stewardship research, while NASA wages what I consider almost a crusade to move on with NIF. Now, we've eliminated, entirely, the funding for inertial fusion technology; that's \$33 million. That supports the development of lasers and Z pinches that could be used in stewardship programs that I have great confidence in, and I think many other scientists do. It just happened to come a year or 2 too late, and we had already committed to the plan for NIF. I was shocked to learn that the budget doesn't even support a full single shift at the Z machine. And if I don't get a chance to ask you about it, I hope you will answer that.

[The information follows:]

NATIONAL IGNITION FACILITY

Senator Domenici, I appreciate the opportunity to respond to your remarks. You have raised a number of issues that I will address in turn.

First, we have maintained a focus on the goal of ignition at NIF despite reductions to the Inertial Confinement Fusion Ignition and High Yield Campaign. The budget submission supports the execution of the first ignition experiments at NIF in fiscal year 2010. This is an important goal for the stewardship program and the Nation. Ignition is a unique capability that will allow the stewardship program to address weapon performance issues related to thermonuclear burn. You and your committee have supported that important goal, and we appreciate your support.

As you may recall, the fiscal year 2005 appropriation reduced the funding for the NIF Demonstration Program, an essential piece of the NIF Project. In response to the fiscal year 2005 appropriation and the modified NNSA 5-year budget, a new plan to complete the NIF Project has been developed. This plan supports the Ignition 2010 goal. We have recently concluded a major external review of this new NIF Project plan that found the Project was proceeding well and performing in accord-

ance with its baseline prior to the fiscal year 2005 reduction. The review team also found that the proposed plan for completing the Project is executable and recommended NNSA accept a change proposal reflecting this plan. However, they caution that the NIF Project is tightly constrained with respect to budget and should be protected against further reductions. NNSA will submit revised plans for the NIF Project and the ignition program to the Congress by June 30, 2005. The achievement of the ignition goal will require continued strong commitment from both the Congress and the NNSA.

Second, you raised a concern regarding the funding for inertial fusion technology. (By "inertial fusion technology," we mean development of high repetition rate laser and pulsed-power drivers and other activities primarily directed at the development of inertial fusion as an electrical power source; this is distinct from stockpile stewardship activities conducted at NNSA inertial fusion facilities.) The Congress has funded this via "add-ons" in the past, and it is true that such activities are not funded in the current budget. As you point out, this work is of high quality, but the energy-related inertial fusion technology activities have never appeared in the NNSA submission, as they are lower priority than other stewardship needs and largely motivated by the inertial fusion energy mission, which does not reside in NNSA. I would also point out that NNSA does support a number of important technology development activities relevant to weapons applications of inertial fusion, including high-energy petawatt lasers and advanced ignition concepts. As a final point, from both the defense and energy perspectives, the demonstration of ignition is the highest priority inertial fusion activity NNSA and the Nation can undertake.

Third, you raised a concern regarding funding for the Z machine. The Z machine has returned outstanding results and continues to be an important resource for NNSA. In fact, in the face of a difficult budget we have maintained a reasonable program at Z in fiscal year 2006, including full funding for the Z-refurbishment project. Because of constrained budgets, we are planning to operate the Z Facility at 90 percent of the full single shift rate through April 2006. At the end of April 2006, the Z-facility will be shut down for refurbishment and installation of hardware, per the Z-refurbishment project plan. Thus, overall we will reduce the number of shots on Z by a modest amount while keeping the Z-refurbishment project on schedule.

NIF is important to the NNSA, stockpile stewardship, and the Nation. It will provide critical information for the stewardship program and open major new scientific frontiers. The demonstration of ignition will be a major scientific achievement for stockpile stewardship; in particular, it is critical to the validation of the advanced simulation codes produced by the Advanced Simulation and Computing Program. NIF is now 80 percent complete, and we believe the most effective path financially and technically is to complete the NIF Project and commence ignition experiments as expeditiously as possible.

Thank you again for your interest and the opportunity to respond.

Senator DOMENICI. Another policy change contained in this budget is a provision to shift the cleanup responsibilities from the Office of Environmental Management to the NNSA. I understand that the Department would like the NNSA to take ownership of its waste streams and include cleanup cost in the lifecycle of future projects.

In theory, I agree with this concept. However, applying environmental cleanup responsibilities to the weapons stewardship program might be a greater challenge than the administration expects. I hope to learn more about this proposal from your testimony, especially the legal basis for such actions.

NUCLEAR NONPROLIFERATION

We all know that a better job is being done on—overall, on cleanup than ever before. Some will disagree. I compliment you on it.

On nonproliferation, huge issue, we appreciate the President's mentioning it in his State of the Union, and then for you to follow through with a significant increase of 15 percent on nonproliferation.

I failed to mention, when we talked about cleanup, with the presence of the Senator from Colorado, that one of the real examples

of achievement, setting timetables and getting them done, is in your State. Rocky Flats. We've had other ones say we can't have a timetable, we never can get finished. Here you came up with one that was terrifically difficult, in terms of pollution, and you got it done.

Nonproliferation research is up. That's good. You include funding for the MOX program. Very exciting. Terrific idea.

The MPCA with Russia has an increase. Eliminating the Russian plutonium production has an increase. That one's all in jeopardy if we don't get the agreement with the Russians, which doesn't have much longer time, because that's got a lot of money tied up in the appropriations that the House may decide to spend if we don't get that agreement. And I'm working very hard with the State Department and your Secretary to see if they can't expedite that.

NAVAL REACTORS

Naval reactors, we don't have to say much. They always excel. We use you as an example, and especially with all your boats at sea—

Admiral DONALD. Yes, sir.

Senator DOMENICI [continuing]. With reactors floating around with spent fuel rods onboard—

Admiral DONALD. Yes, sir.

Senator DOMENICI [continuing]. As examples of why we shouldn't be so frightened about nuclear power and nuclear waste.

Admiral DONALD. Thank you, sir.

Senator DOMENICI. So, in conclusion, there is no doubt about it, the budget will require some tough choices to balance the needs of the Department, but what we must do this year pales in comparison to the challenge we will face if we're expected to cut \$3 billion over the next 5 years from the weapons program. I don't think anyone's given much thought—maybe they have, but they certainly hasn't come up with any conclusions that we've accepted in Congress as to how we will achieve those.

So, Mr. Ambassador, sorry for going through all of this, but I think it's important that you know that we know what's going on and that we are very interested in what you have to say.

The Senator from Colorado.

STATEMENT OF SENATOR WAYNE ALLARD

Senator ALLARD. Mr. Chairman, I have a full statement I'd like to put in the record.

Just briefly, this is a new experience for me.

Senator DOMENICI. Yes.

Senator ALLARD. I was on the authorizing side, as Chairman of the Strategic Subcommittee, and viewed many of these issues from the authorizers' point of view, which I don't think is that different from where you come from, Mr. Chairman. I plan on being very supportive of your efforts here on this subcommittee.

You know, I've had an opportunity to work with Ambassador Brooks and Dr. Beckner, both, and I think they do a great job, and I think we will miss them. And, in fact, I took a personal tour with both of them, visited Lawrence Livermore Lab, Los Alamos Lab, Sandia Lab, as well as went over to the Pantex facility there in

Texas, and have had an opportunity, also, Admiral, from being—looking at a nuclear reactor on a ship. So, I do feel that we're doing a good job in many of these areas, and I'm a little bit taken aback by the size of reduction in funding that the administration has suggested on this.

And, Mr. Chairman, you've always taken a special interest in all these programs, in the health and well-being of these laboratories, and I've appreciated that effort. And when I visited those labs, the employees in those labs—and the administration, frankly, looked up to your leadership, and you were spoken of favorably in many instances.

You know, I've been supportive of the study on RNEP, and it's always taken me aback why the other House couldn't at least settle on just studying it, look what our options are and what—the programs happening out there. And I hope that we can continue to push that on this side. And it's somewhat of a problem, I think, in conference committee, and hopefully we can be more successful this year than we have in the past.

And so, I look forward to your testimony, Mr. Brooks. And, Mr. Chairman, I look forward to working with you on many of these very important issues. And thank you for mentioning Rocky Flats, Mr. Chairman. We're 1 year ahead of schedule, and we're under budget. And so, I'm proud of that. And, again, thank you for giving me an opportunity to say a few words.

[The statement follows:]

PREPARED STATEMENT OF SENATOR WAYNE ALLARD

Thank you Mr. Chairman for the opportunity to attend this hearing today. It is a little unusual to be approaching this issue from the appropriations side of the house. As you know, Mr. Chairman, last year I chaired the Senate Armed Services Strategic Forces Subcommittee, which was responsible for authorizing funding and overseeing the Department of Energy National Nuclear Security Agency.

Ambassador Brooks, it is a pleasure to see you again. Your leadership at the National Nuclear Security Agency has been critical over these last couple of years. I want you to know that I support you and that I look forward to working with you this year.

Mr. Chairman, I have been concerned for many years that the United States was not doing enough to ensure the effectiveness and reliability of our nuclear weapons deterrent. Two years ago, I visited all three nuclear weapons labs: Livermore National Laboratory, Sandia National Laboratory, and Los Alamos. I also visited the refurbishment facility at Pantex, Texas.

Mr. Chairman, I know you take a special interest in the health and well-being of these laboratories. Your support for their work has helped diversify and invigorate the activities of the labs. Most if not all of the workers, technicians, and researchers at the labs look up to you and deeply appreciate everything you have done for them.

Given your interest, I believe it is important for you to know that during my visit, I sensed an unusual degree of hesitancy. It seemed to me that though the scientists at the labs were proud of their work, many were apprehensive about discussing it. As I probed, I became aware of the detrimental impact decisions made here in Washington were having on our scientists and researchers. We have put so many laws on the books and have had so many public, highly controversial debates that those at the labs are often left wondering if whether the work that they are doing for our Nation was appropriate, or worse, even legal.

This apprehension introduces an element of uncertainty. As I'm sure you know, uncertainty can be very destabilizing for a scientist and can hinder the scientist's ability to focus on the question at hand. It introduces limiting factors that cloud the scientific process and make it very difficult to approach a problem in a logical, straightforward manner.

Mr. Chairman, I believe the Congress has been sending mixed messages. One moment, the Congress repeals the prohibition on the low yield nuclear weapons. Then,

Congress turns around and cuts the funding for the study of the feasibility of a robust nuclear earth penetrator.

The Congress tells our scientists to be responsive to the requirements of the military commanders and begin to think about how nuclear weapons fit within the Nuclear Posture Review's new triad. Then Congress changes its mind and cuts funding for advanced concepts initiatives, which would have tried to match our military's requirements with potential nuclear capabilities.

Mr. Chairman, I recognize that the problem is not in the Senate. Under your leadership, we have successfully defeated several floor amendments to cut nuclear weapons funding or limit our weapons activities. I know that some in the House have been willing to make significant sacrifices in order to prohibit funding for certain nuclear weapons activities. I want you to know that I will strongly support you both on the floor and in conference on these issues. In my mind, few programs are as important to our country's national security as our nuclear weapons programs.

Thank you Mr. Chairman for the opportunity to speak today. I look forward to the Ambassador Brooke's testimony.

Senator DOMENICI. You're welcome. We welcome you on the committee. You're going to be a terrific asset.

The round will proceed. Mr. Ambassador, your full remarks will be made a part of the record.

Oh, I didn't see you, Senator Feinstein. You walked in—I shouldn't say "snuck in"—you just walked in, and I wasn't looking. So, would you like to have some opening remarks? If you do, please proceed.

STATEMENT OF SENATOR DIANNE FEINSTEIN

Senator FEINSTEIN. Well, I'd be happy to make a couple of opening remarks.

As you know, I have great respect for you and great respect for Ambassador Brooks. I am very opposed to reopening the nuclear door and developing a new generation of nuclear weapons. And this budget contains money to do just that.

Specifically, \$4 million in the Energy budget, and \$4.5 million for the Department of Defense for the study of the Robust Earth Nuclear Penetrator, \$25 million to increase the Nevada Test Site's time to test readiness from the current 24 to 36 months, to 18 months; and \$7.7 million for a modern pit facility. And that's a facility then to build 450 new pits, which are the nuclear triggers for nuclear weapons; 450 per year, some of which could be designed for new weapons. You don't really need that much production—we went into this before—unless you're intent on reopening the nuclear door.

I'm pleased that this budget contains no funding for the advanced weapons concept and the development of low-yield tactical nuclear weapons under 5 kilotons, but it does contain \$9 million for the Reliable Replacement Warhead program. And I would like to, at the appropriate time, question Ambassador Brooks about his testimony before the Senate—the House Armed Services Committee, because there is concern that this program may be used as another way to develop new nuclear weapons.

I think we made a strong statement last year. I know, Mr. Chairman, respectfully, you don't share my belief here. But the House and some of us on this committee were able to get this money in last year's budget struck entirely for this program. And, as you know, the proposal is for—and also not in this program is the 5-year budget; there's no 5-year budget in this budget. I think it was

\$486 million in the last budget we looked at. So, I have a number of questions on this subject.

Thank you very much.

Senator DOMENICI. Thank you, Senator. And I am aware of all those issues; and, from just guessing, I think we might agree on one.

Senator FEINSTEIN. Good. Which one?

Senator DOMENICI. That one will—one of those will be easy to pass—I mean easy to get concurrence on.

Senator FEINSTEIN. Good.

Senator DOMENICI. Mr. Ambassador.

That was what the intent of the RRW program—we can agree on that.

Mr. Ambassador.

STATEMENT OF AMBASSADOR LINTON F. BROOKS

Ambassador BROOKS. Thank you very much, Mr. Chairman.

Because I have submitted a detailed statement for the record, what I'd like to do is not try to summarize that, but simply address a series of very specific issues that the opening statements have made fairly clear are of interest to the committee.

Let me start with nonproliferation. The President, in the State of the Union, made the point about the need to restrain spending. And you see that reflected both in this year's budget and in our projection over 5 years. Therefore, the nonproliferation increase of 15 percent, which also tracks out through the 5-year plan, is an indication of the administration's priorities and, even more so, the fact that it is targeted for those things that are directly relevant to the defense of the homeland: improving the detection of nuclear technologies to deter nuclear proliferation, security upgrades in the MegaPorts program, shutting down the production of plutonium in the former Soviet Union. And all of these things, we believe, are important and we urge the committee to support.

I want to talk, a couple of minutes, about the MOX program. Most of our nonproliferation programs are very similar to last year, and I appreciate the historic support this committee has given. I'd like to update you on our efforts to dispose of surplus weapons-grade plutonium.

We have had, for 2 years now, an ongoing disagreement with Russia regarding liability protection that has delayed the beginning of construction in both the United States and the Russian Federation. I am hopeful that we are about to resolve this. It has the personal attention of the Secretary of State. It has the personal attention of the Secretary of Energy. We have made some new proposals. And I am hoping that within a few weeks we will be able to finally tell you that this is behind us.

I want to be very careful, because we aren't the only ones who have to act; the Russian Federation has to act, and it's sometimes difficult to predict the Russian Federation. Because of the ongoing delay, and because of the funding constraints I referred to in the President's projection, we can no longer complete construction of our facility on the schedule we had earlier provided Congress, which was to be in production by January 1, 2009. We notified the

Congress of that formally in February, and we will, as required by law, have an alternate plan by August.

But I do want to make a point right now. It is easy to assume that because of these delays the money in this budget is not necessary. That is incorrect. This money is necessary. We're going to solve liability, and we need to get on with construction.

Let me turn to the areas on which there's likely to be some greater controversy in the weapons programs, and let me start with the Robust Nuclear Earth Penetrator.

As was noted, overall our weapons program is actually a decrease of about 3.5 percent if you take into account a transfer of money from Defense in last year's budget. The Nuclear Earth Penetrator study, we project \$4 million in this year, \$14 million in 2007, slightly smaller amounts in the Department of Defense, and nothing else.

After last year's action by the Congress, we asked the Department of Defense to review the continuing need. The Secretary of Defense personally reviewed that, and, at his direct personal request, we have included the money in the budget for this year. He did this, not because he's particularly interested in developing a new weapon, but because there are adversaries who are building deeply-buried facilities, and it is unwise for there to be anything that's beyond the reach of U.S. power. And until we know that we can deal with those conventionally, we need to at least find out what we can do in the nuclear area.

The press reports on this have not always been completely accurate. Nobody believes that you can drive a weapon thousands of feet into the ground and contain the fallout. Nobody believes that you can make a weapon that wouldn't have substantial devastation if it was used. If I may be inelegant, in testimony before another committee I said, "Anybody who thinks you can use a nuclear weapon and not notice is just nuts." But—

Senator FEINSTEIN. Could you—

Senator DOMENICI [continuing]. Mr. Ambassador, I'm very sorry. I was interrupted. Could you go back, just, like, turn the clock back?

Ambassador BROOKS. Yes, sir.

Senator FEINSTEIN. Well, I want him to hear that part, about the fallout.

Ambassador BROOKS. Yes, ma'am.

There have been press reports which have suggested that we believe that the Nuclear Earth Penetrator can bury itself into the ground to the point where the fallout would all be contained. That, I believe, is almost certainly impossible, and it is, in any event, not what we are thinking of doing. We're thinking of putting something that will survive a few meters in the ground, so that the energy will penetrate deeply into the ground in order to destroy, collapse hardened facilities.

Now, I want to make a couple of points, and they go to Senator Feinstein's point. Last year's budget allowed the quite fair, but erroneous, belief that the administration had decided to go ahead and build this thing. And that was because, in the belief that we should show what the implications would be, we had put an out-year wedge for what it would cost to field it. The administration has not

made any such decision. It can't make such a decision without at least two other congressional votes. And so, to ensure that you knew that we understood that, we show nothing beyond the 2007 money. I have no idea, until we complete the study, whether this will prove interesting, whether this will be something we will want to do further research on.

But I do want to stress two points: that we've made no decision to proceed beyond the current phase, there's no funding programmed, except for the current phase, and we've tried to, by focusing only on one of the two candidates we were originally looking at, make the study as limited as possible.

The other area which I'd like to spend a little time on in the weapons program is the Reliable Replacement Warhead. And I want to start out by making two statements, in just the strongest possible terms. The first is, stockpile stewardship is working. The only reason that we are able to consider this kind of research is because stockpile stewardship is working. And, secondly, the implication that this is some backdoor way to build new weapons is wrong. That's not what we intend. I believe the Secretary has sent a letter to that effect to some of the members of this committee.

Now, if we're not going to do new weapons, what are we going to do? In the cold war, we had very tight design to minimize the weight and space of warheads so we could put the maximum number on a missile. We don't do that anymore, because we're reducing. So the question is, if we relax those, could we upgrade and modify our existing warheads by, for example, using components that are less difficult to handle, so that when we take these apart for periodic surveillance, we have fewer problems? Could we modify these by, for example, changing some of the explosive components so that they are insensitive high explosives, so that as we do our surveillance, we reduce both the risk, but also the difficulty? Could we modify these by changing components in a way that we would be less sensitive to aging, and, thus, never need to get to the point where we might think about nuclear testing? And so, the RRW approach will allow us to investigate what the options are.

In the testimony I provided to the Armed Services Committee, I suggested some things that the country might want to do if this approach proves to be as beneficial as we hope. The country might want to say, because these warheads are so reliable, we don't need to keep as many spares as the President's plan now has, and we can further reduce the total stockpile. The country would certainly be able to say it's far less likely that we will be faced with the question of whether or not a nuclear test is needed for a problem if we strengthen and ruggedize these warheads in a way that we're less sensitive to aging. Which of those options will prove to be workable, we don't know, but the idea is to develop new components, which will go in existing warheads that are delivered by existing missiles and aimed at existing targets. There's no new weapons, new targets, new military capabilities being sought here.

Two other areas I want to talk about in the weapons area. One is the National Ignition Facility. And actually, Mr. Chairman, your opening statement pretty much parallels my opening statement. We have, in fact, refocused this program to focus on achieving ignition in 2010. That's not the only important use of this. There are

important stockpile stewardship uses for NIF. In order to do this with the budgetary pressures I referred to, we have reduced inertial confinement for fusion work at other facilities; at Omega Laser, for example. We will be sending a report to the appropriate committees by June 30 on our revised NIF activation plan as we work out the detailed implications. And Dr. Beckner can address this a little more in the questioning, if you want.

Finally, I do want to make a comment about the modern pit facility. We are required by law to hold open all the options that are analyzed in the environmental impact statement, but I think that the odds of us concluding we need 450 pits a year are very small. The farther I can drive down the overall stockpile, the smaller the modern pit facility has to be made. But sooner or later, unless everything we know about the aging of plutonium is wrong, we are going to need to melt down and rework the existing pits for the existing warheads, and we need to build a facility to do that. The Congress, the law, currently prohibits us from selecting a site for that facility, and I urge the committee to lift that prohibition in the coming year so that we can continue an orderly progress.

You mentioned, and I would just note, that Naval Reactors Program supports the 103 operating reactors, 40 percent of the Navy's combat ships. This has been a legend in both technical and managerial excellence for pretty much all of my professional lifetime, and I have no reason to doubt that it'll continue to be.

The final area I want to talk about is safeguards and security. The reason I said that our weapons program had gone down by 8 percent—I mean, by 3.5 percent—and you, Mr. Chairman, mentioned a slight increase—is that we lumped together, in the budget submission, safeguards and security and actual weapons work. What's going up is safeguards and security. We asked for \$708 million in this fiscal year, and the projections for the future show growth. And I actually am worried about that. Nonetheless, the situation is that we now know there are people who are willing to die in order to inflict massive damage on the United States, that we have looked carefully at a very elaborate design-basis threat, and that right now while we hope that technology will let us guard against this threat in a less expensive fashion, protecting and preserving the security of nuclear materials is just one of our highest priorities.

I think that we will have a great deal of difficulty in—this time next year, in continuing this progress. I think that we clearly are going to need more money in future years. The budget we've presented to you this year is accurate.

PREPARED STATEMENTS

But no matter how low the probability of an attack, I think that you have to deter our enemies, and that means you have to be visibly able to repel attacks. So I urge the committee to continue its historic strong support for physical security.

Mr. Chairman, that concludes my summary statement, and my colleagues and I are ready for your questions.

[The statements follow:]

PREPARED STATEMENT OF AMBASSADOR LINTON F. BROOKS

Thank you for the opportunity to discuss the fiscal year 2006 Budget Request for the National Nuclear Security Administration (NNSA). This is my third appearance before this Committee as the Under Secretary for Nuclear Security, and I want to thank all of the Members for their strong support for our important national security responsibilities.

OVERVIEW

In the fifth year of this administration, with the strong support of Congress, NNSA has achieved a level of stability that is required for accomplishing our long-term missions. Our fundamental responsibilities for U.S. national security include:

- Stewardship of the Nation's nuclear weapons stockpile;
- Reducing the threat posed by the proliferation of weapons of mass destruction;
- Providing reliable and safe propulsion for the U.S. Navy; and,
- Managing the national nuclear security complex, which includes both security for our facilities and materials to protect our employees and our neighbors, and sustaining the weapons complex infrastructure.

This budget request supports the NNSA's mission.

In his State of the Union Address in February, the President underscored the need to restrain spending in order to sustain our economic prosperity. As part of this restraint, it is important that total discretionary and non-security spending be held to levels proposed in the fiscal year 2006 budget. The budget savings and reforms in the budget are important components of achieving the President's goal of cutting the budget deficit in half by 2009 and we urge the Congress to support these reforms. To support the President's goal, most programs in NNSA's budget of \$9.4 billion are funded at levels less than we projected last year.

The major exceptions are those nonproliferation programs that directly affect homeland security. Consistent with the President's priorities, we have increased funding for activities associated with nonproliferation by 15 percent on top of the already significant budgets of last year, for a total request of \$1.6 billion. That increase has been targeted for research on proliferation detection technologies, for programs to improve the security of weapons material outside the United States, and to detect such material in transit.

The international community faces a variety of new and emerging threats. As the events of September 11, 2001 made clear, new sub-national threats are emerging that involve hostile groups willing to use or support the use of low-tech weapons of great destructive capability. If these groups come to possess nuclear weapons or other weapons of mass destruction (WMD), they would pose an even greater threat to the United States. Thus, diplomatic, political, and other efforts to prevent the acquisition of nuclear weapons, weapons-usable materials, or chemical or biological weapons, in conjunction with a robust counter-terrorism effort and defenses, are the best means available to address this threat.

The fiscal year 2006 request in our Stockpile Stewardship Program also makes adjustments to ensure that we continue to meet our commitments to the Department of Defense (DOD). In the post-Cold War world, nuclear weapons play a critical but reduced role in the Nation's overall security posture. Nuclear forces—linked with an advanced conventional strike capability and integrated with a responsive infrastructure—continue to be an essential element of national security by strengthening our overall ability to reassure allies of U.S. commitments, dissuade arms competition from potential adversaries, and deter threats to the United States, its overseas forces, allies, and friends.

Key elements of our nuclear posture involve strategies that enable the United States to quickly adapt and respond to unanticipated changes in the international security environment or to unexpected problems or "surprises" in the status of our nuclear forces. As our Nation's nuclear stockpile draws down to levels established in the Treaty of Moscow—between 1,700–2,200 operationally deployed strategic nuclear warheads—the United States will also reduce dramatically the total number of warheads in the stockpile. The June 2004 Report to Congress, "A Revised Nuclear Weapons Stockpile Plan for 2012", lays out our plans to meet this goal by 2012.

A critical strategy to support these reductions is to establish a flexible and responsive nuclear weapons infrastructure to support future defense requirements. A responsive NNSA infrastructure—people and facilities—includes innovative science and technology research and development at the National laboratories and agile production facilities that are able to meet identified needs and are capable of responding to unanticipated problems in the stockpile.

The initiative for NNSA to develop a more responsive infrastructure was first developed in the Nuclear Posture Review submitted to Congress in January 2002.

That Review couples the plan for stockpile reductions, agreed to in the Treaty of Moscow, with the ability to respond quickly to any surprise events in the future, such as an unexpected degradation in certified performance of a U.S. stockpile weapon or, on the world scene, an unanticipated military threat. On that basis, NNSA is now developing its capabilities to employ its weapons infrastructure in the required "responsive" way. This plan is now under development and will begin to be evident when we provide the fiscal year 2007 budget to the Congress, since it is tied directly to the 2012 commitment for 1,700–2,200 operationally deployed strategic warheads.

The NNSA is also evaluating what the weapons complex should look like in the future. A Nuclear Weapons Complex Infrastructure Study, directed by the House Report accompanying the fiscal year 2005 Energy and Water Development Appropriations Act, is underway and is scheduled to be complete by the end of April 2005. The Study is being run as a task force under the Secretary of Energy's Advisory Board.

NNSA's principal mission is to assure that the Nation's nuclear stockpile remains safe, secure, and reliable. A rigorous program enables the Secretaries of Energy and Defense to report each year to the President on the safety, security, and reliability of our nuclear weapons stockpile. Stockpile Stewardship activities are carried out without the use of underground nuclear testing, continuing the U.S. moratorium on testing initiated in the early 1990's. This is made possible by using science-based judgments informed by cutting edge scientific and engineering tools as well as extensive laboratory and flight tests. We are gaining a more complete understanding of the stockpile each year. Computer codes and platforms developed by our Advanced Simulation and Computing (ASC) campaign are now used to address three-dimensional issues in weapons performance.

NNSA also is working, through weapon refurbishment, to ensure that an aging stockpile is ready to meet Department of Defense requirements. The W87 Life Extension Program was completed in September 2004 and the remaining Life Extension Programs are progressing well. A significantly lower number of refurbishments are expected as a result of a reduced stockpile, with savings being realized in the next decade. We are also producing new tritium for the first time since 1988 and the new Tritium Extraction Facility at Savannah River is ahead of schedule and under budget. Los Alamos National Laboratory remains on track to certify a war reserve W88 pit by 2007. As articulated in our January 2005 Report to Congress, we are refining plans for a Modern Pit Facility.

The Nation continues to benefit from advances in science, technology and engineering fostered by the national security program activities, including cutting edge research and development carried out in partnership with many of the Nation's colleges, universities, small businesses and minority educational institutions. The NNSA programs, including three national laboratories, the Nevada Test Site, and the production facilities across the United States employ nearly 2,300 Federal employees and approximately 35,000 contractor employees to carry out this work.

We are also continuing to advance our nonproliferation objectives worldwide. In June 2002, the United States championed a new, comprehensive nonproliferation effort known as the Global Partnership. World leaders committed to provide up to \$20 billion over 10 years to fund nonproliferation programs in the former Soviet Union. The NNSA contributes directly to this effort by carrying out programs with the international community to reduce and prevent the proliferation of nuclear weapons, materials and expertise. The security of our Nation and the world are enhanced by NNSA's ongoing work to provide security upgrades for military and civilian nuclear sites and enhanced border security in Russia and the Former Soviet Union. In the past year, we have completed comprehensive materials protection control and accountability upgrades at six Russian Navy and Strategic Rocket Forces nuclear weapon facilities, and we are now beginning efforts to install security upgrades at vulnerable Russian 12th Main Directorate sites.

We are planning a significant increase to the Megaports initiative, an effort to install radiation detection equipment at the world's largest seaports to screen large volumes of container traffic headed for the United States well before it gets to our shores. This is a relatively new program and we already have agreements in place with several countries and are looking for more. With the support of the Congress, we hope to complete installation of detection equipment at 24 ports by 2010. We are reducing the world's stocks of dangerous materials such as plutonium through NNSA-sponsored Fissile Materials Disposition programs in the United States and Russia as well as through elimination of Russian plutonium production. We have also initiated the Global Threat Reduction Initiative (GTRI) to identify, secure, remove, and/or facilitate the disposition of high-risk vulnerable nuclear and radio-

logical materials and equipment around the world that pose a threat to the United States and to the international community.

The Nation benefits from NNSA's work in partnership with the Department of Homeland Security to develop and demonstrate new detection technologies to improve security of our cities and ports. Perhaps the most tangible benefits to the Nation following the 9/11 terrorist attacks are the "first responder teams" of highly specialized scientists and technical personnel from the NNSA sites who are deployed across the Nation to address threats of weapons of mass destruction. These teams work under the direction of the NNSA Office of Emergency Operations, Department of Homeland Security and the Federal Bureau of Investigation to respond to nuclear emergencies in the United States and around the world. In the past year, these teams have provided support to such diverse groups and locations as . . . The teams adapt to changing technologies and evolving challenges associated with combating terrorism and accident/incident scenarios in today's world. Outstanding performance in training, exercises, and real world events continues to justify NNSA's reputation for having one of the world's premier nuclear and radiological technical emergency response capabilities.

The NNSA also works in partnership with the DOD to meet their needs for reliable and militarily effective nuclear propulsion for the U.S. Navy. In the past year, the Naval Reactors Program has completed the reactor plant design for the VIRGINIA-class submarine, and supported "safe steaming" of another 2 million miles by our nuclear-powered ships. They have continued their unsurpassed record of "clean up as you go", including remediating to "green grass" the former S1C prototype Site at Windsor, Connecticut, and completing a successful demonstration of the interim naval spent fuel dry storage capability in Idaho.

FISCAL YEAR 2006 BUDGET REQUEST

The fiscal year 2006 budget request totals \$9.4 billion, an increase of \$233.3 million or 2.5 percent. We are managing our program activities within a disciplined 5-year budget and planning envelope. We are doing it successfully enough to be able to address emerging new priorities and provide for needed funding increases in some of our programs—notably in Defense Nuclear Nonproliferation—within an overall modest growth rate by reallocating from other activities and projects that are concluded or being rescope.

NNSA BUDGET SUMMARY

[In millions of dollars]

	Fiscal Year 2004 Comparable Appropriation	Fiscal Year 2005 Original Appropriation	Fiscal Year 2005 Adjustments	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Office of the Administrator	353	356	+ 1	357	344
Weapons Activities	6,447	6,226	+ 357	6,583	6,630
Defense Nuclear Nonproliferation	1,368	1,420	+ 2	1,422	1,637
Naval Reactors	762	808	- 6	801	786
Total, NNSA	8,930	8,811	+ 353	9,164	9,397

The NNSA budget justification contains outyear budget and performance information as part of a fully integrated budget submission as required by Sec. 3253 of the NNSA Act, as amended (Public Law 106-65). This section, entitled Future-Years Nuclear Security Program, requires NNSA to provide to Congress with each budget request the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a 5-fiscal-year period.

FUTURE YEARS NUCLEAR SECURITY PROGRAM (FYNSP)

[In millions of dollars]

	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Total
Office of the Administrator	344	358	372	387	402	1,863
Weapons Activities	6,630	6,780	6,921	7,077	7,262	34,671
Defense Nuclear Nonproliferation	1,637	1,674	1,711	1,748	1,787	8,556
Naval Reactors	786	803	821	839	857	4,106

FUTURE YEARS NUCLEAR SECURITY PROGRAM (FYNSP)—Continued

[In millions of dollars]

	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Total
Total, NNSA	9,397	9,615	9,825	10,051	10,308	49,196

This year's 5-year projections show a decrease of \$496 million over the FYNSP approved for the fiscal year 2005 President's Request. Within this total, there is an increase associated with the transfer of the Environmental Management scope for projects at NNSA sites (\$696 million). This increase is offset within the Department's overall budget by a corresponding reduction in the budget of the Environmental Management program. We have also programmed enhanced efforts in several NNSA programs during the 5-year period: Defense Nuclear Nonproliferation increases \$1.4 billion; Safeguards and Security increases \$979 million; Emergency Response activities increase \$154 million; and Office of Administration increases \$98 million. These increases are partially offset by reductions in Defense Programs (-\$3.0 billion), the Facilities Recapitalization efforts (-\$752 million), and Naval Reactors (-\$64 million). NNSA plans to rebalance outyear funding during the fiscal year 2007-2011 PPBE process.

DEFENSE NUCLEAR NONPROLIFERATION

The Defense Nuclear Nonproliferation program is one area of the NNSA budget where mission priorities require us to request significant increases in funding for fiscal year 2006. The convergence of heightened terrorist activities and the associated revelations regarding the ease of moving materials, technology and information across borders has made the potential of terrorism involving weapons of mass destruction (WMD) the most serious threat facing the Nation. Preventing WMD from falling into the hands of terrorists is the top national security priority of this administration. The fiscal year 2006 budget request of \$1.64 billion for Defense Nuclear Nonproliferation represents an unprecedented effort to protect the homeland and U.S. allies from this threat.

The Defense Nuclear Nonproliferation program goal is to detect, prevent, and reverse the proliferation of Weapons of Mass Destruction (WMD) while mitigating nuclear risk worldwide. Our programs address the danger that hostile nations or terrorist groups may acquire weapons of mass destruction or weapons-usable material, dual-use production or technology, or WMD capabilities, by securing or eliminating vulnerable stockpiles of weapon-usable materials, technology, and expertise in Russia and other countries of concern.

Over the last 4 years the United States, in collaboration with the international community through joint nonproliferation programs, has had much success in preventing the spread of weapons of mass destruction. Some of these successes supported by NNSA's Nuclear Nonproliferation Program include: a 2-year acceleration in securing 600 metric tons of weapons-usable material at 51 sites in Russia and the Newly Independent States; upgrading 13 nuclear facilities in the Newly Independent States in the Baltic region to meet international physical protection guidelines; and establishing the Megaports Initiative that I mentioned earlier.

The administration is requesting \$1.64 billion to support activities to reduce the global weapons of mass destruction proliferation threat, about \$214 million or a 15 percent increase over comparable fiscal year 2005 activities. The administration has targeted both the demand and supply side of the nuclear terrorism challenge with aggressive nonproliferation programs that have achieved a number of major successes in recent years. Through the Global Partnership with the G-8 nations, the United States is dedicating the necessary resources to combat this complex threat, committing to provide half of the \$20 billion for this effort, including \$1 billion in fiscal year 2006 in programs through NNSA, DOD and the Department of State.

For fiscal year 2006, \$343.4 million is included to support the International Nuclear Materials Protection and Cooperation program to secure nuclear materials in the Former Soviet Union, a 16.6 percent increase over the fiscal year 2005 enacted appropriation. For over a decade, the United States has been working cooperatively with the Russian Federation to enhance the security of facilities containing fissile material and nuclear weapons. The scope of these efforts has been expanded to protect weapons-usable material in countries outside the Former Soviet Union as well. These programs fund critical activities such as installation of intrusion detection and alarm systems, and construction of fences around nuclear sites. Efforts to com-

plete this work and to secure facilities against the possibility of theft or diversion have been accelerated.

A number of major milestones for this cooperative program are on the near horizon and the fiscal year 2006 budget ensures that sufficient funding will be available to meet these milestones. Security upgrades will be completed for Russian Navy nuclear fuel and weapons storage by the end of fiscal year 2006 and for Rosatom Navy facilities by the end of fiscal year 2008—both 2 years ahead of the original schedule. Russian Strategic Rocket Forces sites will be completed in 2007, 1 year ahead of schedule. Additionally, cooperation will begin with the nuclear warhead storage sites of the Russian Ministry of Defense's 12th Main Directorate. By the end of 2006, NNSA will have supported completion of security upgrades at nearly 80 percent of the sites covered by the current bilateral agreement to secure nuclear materials and nuclear warheads in Russia and the Newly Independent States.

Fiscal year 2006 funding for the Megaports initiative, another part of the International Nuclear Materials Protection and Cooperation program, is requested at \$74 million, a \$59 million increase, to continue to deploy radiation detection equipment at key overseas ports to pre-screen U.S. bound cargo containers for nuclear or radioactive materials. These materials could be concealed in any of the millions of cargo containers in various stages of transit throughout the world's shipping network.

However, the busiest seaports also provide an opportunity for law enforcement officials to pre-screen the bulk of the cargo in the world trade system. Under the Megaports Initiative, DOE cooperates with international partners to deploy and equip key ports with the technical means to detect and deter illicit trafficking in nuclear and other radioactive materials. This effort supports the U.S. Department of Homeland Security's Container Security Initiative. The fiscal year 2006 budget supports the completion of five ports, which will increase to 10 the number of ports equipped through the Megaports Initiative.

Increased resources are being requested for the Nonproliferation and Verification Research and Development program in fiscal year 2006. The budget of \$272.2 million supports proliferation detection and nuclear explosion monitoring efforts. The additional \$48.3 million above the enacted fiscal year 2005 appropriations will be used to leverage the technical expertise and experience of the National Laboratories and universities to provide a crucial boost to our basic and applied radiation detection and radiochemistry science efforts. This research will develop improved basic radiation detector materials and radiochemistry analytical capabilities, as well as the applied technologies that will enable fielding our advanced technology in support of global nonproliferation missions. We need detectors and capabilities that are more sensitive, smaller, durable, and economical—the increase in basic and applied research will help us to achieve that goal.

Funding for the Elimination of Weapons Grade Plutonium Production (EWGPP) in Russia is requested at \$132 million in fiscal year 2006. This program will result in the permanent shutdown of three Russian nuclear reactors, which currently produce weapons-grade plutonium. These reactors, which are the last three reactors in Russia that produce plutonium for military purposes, also provide necessary heat and electricity to two Russian "closed cities" in the Russian nuclear weapons complex. This budget provides the funding needed to shutdown the three reactors through (1) refurbishment of an existing fossil fuel (coal) power plant in Seversk by 2008; and (2) construction of a new fossil-fuel plant at Zheleznogorsk by 2011. This will eliminate the production of 1.2 metric tons annually of weapons-grade plutonium. The program is of critical importance because plutonium that is never created does not have to be accounted for, does not need to be secured, and will not be available to be targeted by terrorists. The EWGPP program has been working with the Army Corps of Engineers (COE) to perform an independent cost review of both projects. The Seversk review has been completed and the COE found the project cost to be valid and reasonable. The Zheleznogorsk study will be completed later in fiscal year 2005.

At \$98 million, the Global Threat Reduction Initiative (GTRI) program, a newly created initiative announced in 2004, brings together key activities that support the goal to identify, secure, remove and facilitate the disposition of high-risk, vulnerable nuclear and radiological materials and equipment around the world. Our Nation has begun to reap the benefits of this initiative with the successful completion of two shipments of Russian-origin fresh high-enriched uranium nuclear fuel to Russia from foreign research reactors. These shipments fall under one of several programs geared toward implementing the U.S. highly enriched uranium minimization policy.

The NNSA is requesting \$653 million in fiscal year 2006 to continue to support the Fissile Materials Disposition program to dispose of surplus weapons-grade fissile materials under an agreement between the United States and Russia. Both coun-

tries have agreed to dispose of 34 metric tons of plutonium by converting it to a mixed oxide fuel and burning it in electricity-generating nuclear reactors.

We are working to design and build facilities to dispose of these inventories in the United States and are supporting concurrent efforts in Russia to obtain reciprocal disposition of similar materials. One of the key obstacles is an ongoing disagreement with Russia regarding liability protection for plutonium disposition work performed in that country.

This has resulted in a significant delay in the planned start of construction of the MOX Fuel Fabrication facilities and the Pit Disassembly and Conversion Facility. I am cautiously optimistic that we are over the hurdle on this issue but details still need to be negotiated and finalized. Please be assured that we remain committed to building these facilities and to the long-term objectives of the program. We will keep you posted as progress is made. The fiscal year 2006 net increase is primarily for the Off-specification HEU Blend-Down Project with TVA and increased oversight to support major construction of the MOX Fuel Fabrication facility in fiscal year 2006.

WEAPONS ACTIVITIES

The fiscal year 2006 budget request for the programs funded within the Weapons Activities appropriation is \$6.63 billion, less than a 1 percent increase over fiscal year 2005. This request emphasizes programs supported by the Nuclear Posture Review, which directed that NNSA maintain a research, development, and manufacturing base that ensures the long-term effectiveness of the Nation's stockpile. This request also supports the facilities and infrastructure that must be responsive to new or emerging threats.

Directed Stockpile Work (DSW) is one of our areas of special emphasis this year with a fiscal year 2006 request of \$1.4 billion, an 11 percent increase over fiscal year 2005. The increase is needed to ensure that we continue to meet DOD requirements. Without question, our focus remains on the stockpile, but we are looking ahead. The United States is continuing work to refurbish and extend the life of the warheads in the stockpile through the life extension program. Work on the life extensions are progressing well, with the W87 LEP being completed in September 2004. First Production Units are scheduled for three other systems, the B61, W76 and W80, in the fiscal year 2006–2009 timeframe.

In fiscal year 2006, DSW funding will support resumption of the Robust Nuclear Earth Penetrator (RNEP) feasibility and cost study with \$4.0 million requested. Resumption of the RNEP study was requested by the Secretary of Defense after his personal review. I would like to point out that we are only asking for funds to complete a truncated study that began May 1, 2003—one system only, not two as originally proposed, so the costs will be lower. I would also like to emphasize that absolutely no decisions have been reached, there is no engineering development work planned which would require Congressional approval and there is no funding being requested past fiscal year 2007. We have also eliminated the contingency funding for follow-on work shown in last year's FYNSP. I believe the administration and the Congress need to have an important discussion about the need for this capability but it would be best to complete the feasibility and cost study so we can all make an informed decision.

Congress appropriated \$9.0 million in fiscal year 2005 for the Reliable Replacement Warhead. We think this is an excellent way to reduce costs and maintain the stockpile and we have requested \$9.4 million in fiscal year 2006, about a 4.7 percent increase, to continue this initiative.

Progress in other parts of the Stockpile Stewardship Program continues. The fiscal year 2006 request for Campaigns is \$2.1 billion. This request funds a variety of Campaigns, experimental facilities and activities that continue to enhance NNSA's confidence in "science-based" judgments for stockpile stewardship, and provide cutting edge technologies for stockpile certification and maintenance. Without question, our Campaigns are providing immediate and tangible benefits to the stockpile.

While there is no reason to doubt the ability of the Stockpile Stewardship Program to continue to ensure the safety, security, and reliability of the nuclear deterrent, the Nation must maintain the ability to carry out an underground nuclear weapons test in the event of some currently unforeseen problems that cannot be resolved by other means. Consistent with the law, we are improving our readiness posture from the current ability to test within 24 to 36 months to an ability to test within 18 months. The fiscal year 2006 budget request of \$25.0 million supports achieving an 18-month readiness posture by September 2006. We will achieve a 24-

month readiness posture in fiscal year 2005. But let me be clear, there are no plans to test.

The National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL) continues to be an essential component of the Stockpile Stewardship Program. Consistent with the strong views of the Congress, we are continuing towards full commissioning of all 192 beams and focus on the 2010 ignition goal. To do this, however, we have had to accept additional risks and reduce some other inertial confinement fusion work at other sites. The fiscal year 2006 request of \$460.4 million for the Inertial Confinement Fusion and High Yield Campaign, a 14 percent reduction from fiscal year 2005, reflects those reductions. Inertial fusion ignition is the greatest technical challenge ever pursued by the Department. Ignition has never been achieved in the laboratory and this scientific advance will benefit several national endeavors.

The Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) at Los Alamos National Laboratory (LANL) is already producing the highest quality images of simulated primary implosions ever obtained. As you can imagine, this was an area of very high interest during the LANL suspension. The first hydro test in many months is expected in March 2005 to support the W76 LEP. The fiscal year 2006 request of \$27.0 million will support repair and commissioning of the second axis to provide time sequence information required for future weapon primary certification.

The Advanced Simulation and Computing (ASC) request for fiscal year 2006 is \$660.8 million, a decrease of 4.7 percent from fiscal year 2005. This will fund the current and planned operating platforms and the codes employed by designers and scientists in Stockpile Stewardship Program. In fiscal year 2006, the ASC program will improve physics and materials models to more accurately represent the complex physical phenomena in our weapons systems. For example, incremental improvements in Plutonium Equation of State and materials models will be incorporated into our modern codes. Efforts in Verification and Validation of the simulation tools will lead to improved confidence in simulation as a key component of stockpile assessment. Fiscal year 2006 formal code releases will be provided to the design community for the W76-1 LEP.

The NPR recognized a long-term need for a Modern Pit Facility (MPF) to support the pit manufacturing requirements of the entire stockpile. NNSA's fiscal year 2006 request for MPF is \$7.7 million, which is included in the \$248.8 million request for the Pit Manufacturing and Certification Campaign. As articulated in our January 2005 Report to Congress, we are refining plans for a Modern Pit Facility. LANL remains on track to certify a war reserve W88 pit by 2007 and we are reestablishing the technology base to manufacture all pit types in the stockpile.

The Readiness Campaign request is \$218.8 million in fiscal year 2006, a decrease of about 16 percent. The decrease is attributable mainly to the postponement of lower priority activities such as risk mitigation projects for the Life Extension Programs that are the least likely to impact life extension needs and also major items of equipment.

NNSA's Readiness in Technical Base and Facilities activities operate and maintain current facilities and ensure the long-term vitality of the NNSA complex through a multi-year program of infrastructure construction. About \$1.6 billion is requested for these efforts, a decrease of 8.7 percent from fiscal year 2005. Funding for three new construction starts is requested and five candidate projects are in engineering design.

In fiscal year 2006, the budget request is \$212.1 million for Secure Transportation Asset, a 6.2 percent increase over fiscal year 2005 levels, for meeting the Department's transportation requirements for nuclear weapons, components, and special nuclear materials shipments. Hiring of additional Federal agents and production of additional SafeGuards Transporters to meet the increased workload and new Design Basis Threat security requirements accounts for the increase.

The remainder of the Weapons Activities appropriation funding is for Nuclear Weapons Incident Response, Facilities and Infrastructure Recapitalization, and Safeguards and Security.

FACILITIES AND INFRASTRUCTURE RECAPITALIZATION

The Facilities and Infrastructure Recapitalization Program (FIRP) is essential to NNSA's ability to continue revitalization of the complex consistent with the Nuclear Posture Review. The program is delivering on its mission to reduce deferred maintenance and restore the condition of facilities and infrastructure across the complex. I consider FIRP to be a true NNSA "success story", and am pleased to note that the National Research Council has commended NNSA's progress and execution of

real property asset management as the most advanced within DOE. The fiscal year 2006 FIRP request of \$283.5 million is a decrease of 9.6 percent over fiscal year 2005. For the outyears, we intend to rebalance the FIRP budget profile presented in this President's Budget, within the overall NNSA budget allocation, to ensure the program's ability to accomplish its mission and fulfill its commitment to Congress.

ENVIRONMENTAL MANAGEMENT

Environmental compliance is the focus of another management challenge to us. Let me begin by saying that the NNSA of the Future accepts responsibility for our environmental work at NNSA sites. The fiscal year 2006 budget reflects the functional transfer of scope, funding and the associated Federal staff from the Office of Environmental Management (EM) to the NNSA. These functional transfers align responsibility with accountability, ensure clear accounting of the total cost of ownership, and improve overall effectiveness and efficiency. The transfers resolve existing inefficiencies caused by the duplicate EM/NNSA chain of command that has existed since the inception of the NNSA Act. The NNSA Act precludes EM from providing direction to NNSA employees or contractors—yet EM has direct control of budgeting and funding authority, and is accountable for environmental activities at NNSA sites. The current EM/NNSA management structure results in confused lines of authority that impede cost-effective and timely implementation of the cleanup program at NNSA sites. I would like to highlight that this is a zero sum budget transfer, which results in no increases to the Department's overall funding or staffing. I believe the transfer is essential to the effective and efficient operations of environmental activities at NNSA sites and the only viable alternative for the NNSA.

The transferred mission from EM is included in NNSA's fiscal year 2006 Request of \$174.4 million in Environmental Projects and Operations. The environmental transfer activities include environmental restoration, legacy waste management and disposition, and decontamination and decommissioning at sites where NNSA has continuing missions. Specifically, the transfers include: Kansas City Plant; Lawrence Livermore National Laboratory (Main Site and Site 300); Nevada Test Site (including the waste disposal facilities); Pantex Plant; Sandia National Laboratories; and the Separations Process Research Unit. Environmental activities at the Los Alamos National Laboratory and Y-12 National Security Complex are expected to transfer in fiscal year 2007. Additionally, the request in the Readiness in Technical Base and Facilities under operations of facilities includes a total of \$47.0 million for newly generated waste at the Lawrence Livermore National Laboratory and the Y-12 National Security Complex (responsibility for newly generated waste at other NNSA sites was previously transferred by prior agreements).

We will manage all environmental activities that transfer within the newly established Environmental Projects and Operations Program, with the exception of newly generated waste, which will be managed by Defense Programs. We plan to use NNSA's successful Facilities and Infrastructure Recapitalization Program (FIRP) as the business model for managing our new environmental responsibilities. This includes strong central management and accountability for results; best-in-class business practices; and transparency in budget and program performance.

During this year of transition, NNSA, both in tandem with EM staff and "on our own", have been meeting with various outside organizations to not only discuss the proposed transfer, but also to gain insight into the ongoing issues and be able to represent NNSA's perspectives as well. We have routinely scheduled meetings with EPA Headquarters and Regions to discuss emerging regulatory issues, proposed rulemaking, and region-specific issues. NNSA staff, with EM, has engaged with regulators, Tribal entities, Citizen's Advisory Boards on cleanup end state definition and other topics pertinent to clean up and environmental compliance at all of the NNSA sites that will be transferring. NNSA staff has met with Tribal entities to entertain dialog on Tribal issues regarding this transfer. I personally addressed the combined intergovernmental meeting in December of the National Governor's Association, Energy Communities Alliance, National Governor's Association, National Association of Attorneys General, and State and Tribal Government Working Group.

NUCLEAR WEAPONS INCIDENT RESPONSE

The Nuclear Weapons Incident Response request of \$118.8 million is 9.6 percent above the fiscal year 2005 level. This represents a 7.6 percent program growth to bring first responder capability more into line with their increased responsibilities and operations tempo. It replaces outdated and inoperable equipment, provides qualification training, and develops and fields a communications kit that resolves incompatibility issues. It further provides for development and implementation of a

first responder outreach program and provides a modest increase to the Technology Integration program, thus making the equipment purchase program more effective.

SAFEGUARDS AND SECURITY

Protecting the Nation's assets is one of our highest priorities. The growth of our requests for the Safeguards and Security budget over the last 5 years clearly reflects our commitment to security. In fiscal year 2001, our request for safeguards and security was \$406.4 million. In fiscal year 2003, the request grew to \$510.0 million—the first fiscal reflection of the more dangerous security environment recognized after 9/11. That funding and the increased amounts received in successive years has been used to further enhance our already strong security posture.

The fiscal year 2006 request for Safeguards and Security is \$740.5 million. NNSA sites are on track to implement the requirements contained in the May 2003 Design Basis Threat Policy by the end of fiscal year 2006. Assessment and planning to meet the higher threat delineated in the October 2004 revision to the Design Basis Threat Policy will be completed in the third quarter of this year. The budget request adequately funds our efforts to meet this refinement in fiscal year 2006, but we are facing some shortfalls in subsequent years that we are going to have to deal with.

We have made significant improvements in the readiness of our protective forces and the physical plants they defend at the Los Alamos and Lawrence Livermore National Laboratories, the Y-12 National Security Complex, the Pantex Plant and the Nevada Test Site. Where we have found weaknesses based upon our own reviews or reviews conducted by others, these weaknesses have been fixed. We are moving ahead smartly to ensure the special nuclear materials entrusted to the NNSA are stored in modern secure facilities. To this end, we have begun moving material from the TA-18 site at Los Alamos to the Device Assembly Facility on the Nevada Test Site—one of our most modern facilities designed specifically for security. We have also accelerated the construction of the Highly Enriched Uranium Materials Facility at Y-12 for storage of materials currently located in some of our oldest facilities. We have worked through our difficulties with the security of classified removable electronic media at Los Alamos and have implemented strict policies and procedures to control such data and ensure accountability in the future.

NAVAL REACTORS

The Naval Reactors fiscal year 2006 budget request of \$786 million is a decrease of \$15.4 million from fiscal year 2005. The majority of funding supports sustaining the Navy's 103 operational nuclear reactors. This work involves continual testing, analysis, and monitoring of plant and core performance which becomes more critical as the reactor plants age. The nature of this business demands a careful, measured approach to developing and verifying nuclear technology; designing needed components, systems, and processes; and implementing them in existing and future plant designs. Most of this work is accomplished at Naval Reactors' DOE laboratories. These laboratories have made significant advancements in extending core lifetime, developing robust materials and components, and creating an array of predictive capabilities.

Naval Reactors' operations and maintenance budget request is categorized into four areas of technology: Reactor Technology and Analysis; Plant Technology; Materials Development and Verification; and Evaluation and Servicing.

The \$213.9 million requested for Reactor Technology and Analysis will support continued work on the design for the new reactor plant for the next generation of aircraft carriers, CVN-21. These efforts also support the design of the Transformational Technology Core (TTC), a new high-energy core that is a direct outgrowth of the Program's advanced reactor technology and materials development and verification work.

Reactor Technology and Analysis also develops and improves the analysis tools which can be used to safely extend service life beyond our previous experience base. The increasing average age of our Navy's existing reactor plants, along with future extended service lives, a higher pace of operation and reduced maintenance periods, place a greater emphasis on our work in thermal-hydraulics, structural mechanics, fluid mechanics, and vibration analysis. These factors, along with longer-life cores, mean that for years to come, these reactors will be operating beyond our previously proven experience base.

The \$143.8 million requested for Plant Technology provides funding to develop, test, and analyze components and systems that transfer, convert, control, and measure reactor power in a ship's power plant. Reactor plant performance, reliability, and safety are maintained through a full understanding of component performance and system condition over the life of each ship. Naval Reactors is developing compo-

nents to address known limitations and to improve reliability of instrumentation and power distribution equipment to replace aging, technologically obsolete equipment. Additional technology development in the areas of chemistry, energy conversion, instrumentation and control, plant arrangement, and component design will continue to support the Navy's operational requirements.

The \$145.1 million requested for Materials Development and Verification funds material analyses and testing to provide the high-performance materials necessary to ensure that naval nuclear propulsion plants meet Navy goals for extended warship operation and greater power capability. More explicitly, materials in the reactor core and reactor plant must perform safely and reliably for the extended life of the ship. Funds in this category also support Naval Reactors' share of work at the Advanced Test Reactor (ATR), a specialized reactor plant materials testing facility operated by the DOE Office of Nuclear Energy, Science, and Technology.

The \$183.4 million requested for Evaluation and Servicing sustains the operation, maintenance, and servicing of Naval Reactors' operating prototype reactor plants and the remaining share of Naval Reactors' ATR operations. Reactor core and reactor plant materials, components, and systems in these plants provide important research and development data and experience under actual operating conditions. These data aid in predicting and subsequently preventing problems that could develop in Fleet reactors. With proper maintenance, upgrades, and servicing, the two prototype plants and the ATR will continue to meet testing needs for at least the next decade.

Evaluation and Servicing funds also support the implementation of a dry spent fuel storage production line that will put naval spent fuel currently stored in water pits at the Idaho Nuclear Technology and Engineering Center and at the Expanded Core Facility (ECF) on the Naval Reactors facility in Idaho into dry storage. Additionally, these funds support ongoing decontamination and decommissioning of inactive nuclear facilities at all Naval Reactors sites to address their "cradle to grave" stewardship responsibility for these legacies, and minimize the potential for any environmental releases.

In addition to the budget request for the important technical work discussed above, program direction and facilities funding is required for continued support of the Program's operations and infrastructure. The \$52.6 million requested for facilities operations will maintain and modernize the Program's facilities, including the Bettis and Knolls laboratories as well as ECF and Kesselring Site Operations (KSO), through capital equipment purchases and general plant projects. The \$16.9 million requested for construction funds will be used to build a materials development facility and a new office building. This will allow consolidation of work now occurring in several locations across the laboratories. Finally, the \$30.3 million requested for program direction will support Naval Reactors' DOE personnel at Headquarters and the Program's field offices, including salaries, benefits, travel, and other expenses.

OFFICE OF THE ADMINISTRATOR

The fiscal year 2006 budget request of \$343.9 million is about 3.7 percent below the fiscal year 2005 appropriation. The request reflects the completion the NNSA re-engineering initiative that streamlined support for corporate management and oversight of the nuclear weapons and nonproliferation programs.

Re-engineering resulted in an annual cost avoidance of over \$40 million realized by the reduction of NNSA Federal staffing levels. In addition, the funding request is sufficient to support the new program for Historically Black Colleges and Universities, initiated by Congress in fiscal year 2005, through fiscal year 2006.

MANAGEMENT ISSUES

I would like to conclude by discussing some of NNSA's management challenges and successes. This committee is well aware of the problems that beset the Los Alamos National Laboratory during the past year. In July 2004 the Laboratory Director imposed a stand down on essentially all activities at the laboratory because of a series of security and safety problems, especially an inability to locate two classified computer disks. While a thorough investigation revealed that the "missing" disks never existed, it also revealed that there were serious problems with the management of safety and security at Los Alamos. Operations have now resumed and the laboratory is in the process of putting into place long-term corrective actions. I have provided the committee with a copy of the report prepared jointly by the former Deputy Secretary of Energy and myself that outlines the problems in detail. As a result of this action, I imposed a significant reduction in the management fee awarded to the University of California for the operation of Los Alamos.

Of particular concern to me was that the Federal oversight system had recognized the safety-related problems at Los Alamos in advance, but not the security problems. The committee has received an independent assessment of this weakness in oversight. I believe it was caused by leadership failures, inadequate numbers of trained Federal security experts, a local oversight approach that did not provide enough hands-on involvement, and a failure to provide sufficient headquarters supervision of the local Site Office. We are in the process of implementing corrective action in each area. I will keep the committee informed of our progress.

On the "success" side, the NNSA has fully embraced the President's Management Agenda through the completion of the NNSA re-engineering initiative by creating a more robust and effective NNSA organization. Additionally, NNSA's success has been recognized with consistently "Green" ratings, including Budget and Performance Integration. NNSA integrates financial data with its budget and performance information through implementation of its Planning, Programming, Budgeting and Evaluation (PPBE) process that was implemented simultaneously with the standup of the new NNSA organization established by the NNSA Act.

The PPBE process is in its third year of implementation, and seeks to provide a fully integrated cascade of program and resource information throughout the management processes, consistent with expectations in the NNSA Act. The cascade and linkages within NNSA mirror the Headquarters and field organization structures, and are supported by management processes, contracting, funds control and accounting documentation. The cascade and linkages are quite evident in our updated NNSA Strategic Plan, issued last November.

We at NNSA take very seriously the responsibility to manage the resources of the American people effectively and I am glad that our management efforts are achieving such results.

Finally, to provide more effective supervision of high-hazard nuclear operations, I have established a Chief, Defense Nuclear Safety and appointed an experienced safety professional to the position. I believe this will help us balance the need for consistent standards with my stress on the authority and responsibility of the local Site Managers.

CONCLUSION

In conclusion, I am confident that we are headed in the right direction. Our budget request will support continuing our progress in protecting and certifying our nuclear deterrent, reducing the global danger from proliferation and weapons of mass destruction, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of our people, information, materials, and infrastructure. Above all, it will meet the national security needs of the United States of the 21st century.

Mr. Chairman, this concludes my statement. A statistical appendix follows that contains the budget figures supporting our request. My colleagues and I would be pleased to answer any questions on the justification for the requested budget.

NATIONAL NUCLEAR SECURITY ADMINISTRATION APPROPRIATION AND PROGRAM SUMMARY

[In millions of dollars]

	Fiscal Year 2004 Comparable Appropriation	Fiscal Year 2005 Original Appropriation	Fiscal Year 2005 Adjustments	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Office of the Administrator	353	356	+ 1	357	344
Weapons Activities	6,447	6,226	+ 357	6,583	6,630
Defense Nuclear Nonproliferation	1,368	1,420	+ 2	1,422	1,637
Naval Reactors	762	808	- 6	801	786
Total, NNSA	8,930	8,811	+ 353	9,164	9,397

FUTURE YEARS NUCLEAR SECURITY PROGRAM (FYNSP)

[In millions of dollars]

	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Total
Office of the Administrator	344	358	372	387	402	1,863
Weapons Activities	6,630	6,780	6,921	7,077	7,262	34,671

FUTURE YEARS NUCLEAR SECURITY PROGRAM (FYNSP)—Continued

[In millions of dollars]

	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Total
Defense Nuclear Nonproliferation	1,637	1,674	1,711	1,748	1,787	8,556
Naval Reactors	786	803	821	839	857	4,106
Total, NNSA	9,397	9,615	9,825	10,051	10,308	49,196

WEAPONS ACTIVITIES APPROPRIATION

[In thousands of dollars]

	Fiscal Year 2004 Comparable Appropriation ¹	Fiscal Year 2005 Original Appropriation	Fiscal Year 2005 Adjustments ²	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Weapons Activities:					
Directed Stockpile Work	1,290,525	1,316,936	— 39,782	1,277,154	1,421,031
Science Campaign	258,856	279,462	— 3,469	275,993	261,925
Engineering Campaign	265,206	260,830	555	261,385	229,756
Inertial Confinement Fusion and High Yield Campaign	511,767	541,034	— 5,130	535,904	460,418
Advanced Simulation and Computing Campaign	715,315	703,760	— 7,013	696,747	660,830
Pit Manufacturing and Certification Cam- paign	262,544	265,671	— 2,651	263,020	248,760
Readiness Campaign	294,490	272,627	— 11,181	261,446	218,755
Readiness in Technical Base and Facili- ties	1,649,959	1,670,420	116,033	1,786,453	1,631,386
Secure Transportation Asset	186,452	201,300	— 1,591	199,709	212,100
Nuclear Weapons Incident Response	96,197	99,209	9,167	108,376	118,796
Facilities and Infrastructure Recapitaliza- tion Program	238,755	273,544	40,178	313,722	283,509
Environmental Projects and Operations	181,652	.....	192,200	192,200	174,389
Safeguards and Security	628,861	757,678	— 5,749	751,929	740,478
Subtotal, Weapons Activities	6,580,579	6,642,471	281,567	6,924,038	6,662,133
Use of Prior Year Balances	— 104,435	— 86,000	72,912	— 13,088	.....
Security Charge for Reimbursable Work	— 28,985	— 30,000	.....	— 30,000	— 32,000
Transfer from DOD Appropriations .....	.....	— 300,000	.....	— 300,000	.....
Undistributed Adjustment .....	.....	.....	2,400	2,400	.....
Total, Weapons Activities	6,447,159	6,226,471	356,879	6,583,350	6,630,133

¹ Fiscal year 2004 reflects distribution of the rescission of \$37,007,815 from the Energy and Water Development Appropriations Act for fiscal year 2004, approved reprogrammings, and comparability adjustments. Reference the "Fiscal Year 2004 Execution" table for additional details on these adjustments.

² The fiscal year 2005 adjustments column reflects distribution of the rescission of \$49,811,768 from the Consolidated Appropriations Act, 2005 (Public Law 108-447), transfer of funds pursuant to a letter dated December 9, 2004, from the Chairmen of the Senate and House Appropriation Committees to the Secretary of Energy, and comparability adjustments. Reference the "Fiscal Year 2005 Execution" table for additional details on these adjustments.

DEFENSE NUCLEAR NONPROLIFERATION APPROPRIATION

[In thousands of dollars]

	Fiscal Year 2004 Comparable Appropriation ¹	Fiscal Year 2005 Original Appropriation ²	Fiscal Year 2005 Adjustments ²	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Defense Nuclear Nonproliferation:					
Nonproliferation and Verification Research and Development	228,197	225,750	— 1,787	223,963	272,218
Nonproliferation and International Security	86,219	154,000	— 62,682	91,318	80,173
International Nuclear Materials Protection and Cooperation	228,734	322,000	— 27,349	294,651	343,435

DEFENSE NUCLEAR NONPROLIFERATION APPROPRIATION—Continued

[In thousands of dollars]

	Fiscal Year 2004 Comparable Appropriation ¹	Fiscal Year 2005 Original Appropriation ²	Fiscal Year 2005 Adjustments ²	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Global Initiatives for Proliferation Prevention	39,764	41,000	— 325	40,675	37,890
HEU Transparency Implementation	17,894	20,950	— 166	20,784	20,483
International Nuclear Safety and Cooperation	19,850	.....	.....	.....	.....
Elimination of Weapons-Grade Plutonium Production	81,835	40,097	3,872	43,969	132,000
Fissile Materials Disposition	644,693	624,000	— 10,940	613,060	653,065
Offsite Source Recovery Project .....	.....	7,600	— 7,600	.....	.....
Global Threat Reduction Initiative	69,464	.....	93,803	93,803	97,975
Subtotal, Defense Nuclear Nonproliferation	1,416,650	1,435,397	— 13,174	1,422,223	1,637,239
Use of Prior Year Balances	— 48,941	— 15,000	14,880	— 120	.....
Total, Defense Nuclear Nonproliferation	1,367,709	1,420,397	1,706	1,422,103	1,637,239

¹ Fiscal year 2004 reflects distribution of the rescission of \$7,832,911 from the Energy and Water Development Appropriations Act for fiscal year 2004, approved reprogrammings, and comparability adjustments. Reference the "fiscal year 2004 Execution" table for additional details on these adjustments.

² The fiscal year 2005 adjustments column reflects distribution of the rescission of \$11,363,176 from the Consolidated Appropriations Act, 2005 (Public Law 108-447), transfer of funds pursuant to a letter dated December 9, 2004, from the Chairmen of the Senate and House Appropriation Committees to the Secretary of Energy, and comparability adjustments. Reference the "fiscal year 2005 Execution" table for additional details on these adjustments.

NAVAL REACTORS APPROPRIATION

[In thousands of dollars]

	Fiscal Year 2004 Comparable Appropriation	Fiscal Year 2005 Original Appropriation	Fiscal Year 2005 Adjustments	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Naval Reactors Development (NRD):					
Operations and Maintenance	718,836	771,211	— 6,170	765,041	738,800
Program Direction	26,552	29,500	— 236	29,264	30,300
Construction	18,490	7,189	— 57	7,132	16,900
Subtotal, Naval Reactors Development	763,878	807,900	— 6,463	801,437	786,000
Less Use of prior year balances	— 2,006	.....	.....	.....	.....
Subtotal Adjustments .....	.....	.....	.....	.....	.....
Total, Naval Reactors	761,872	807,900	— 6,463	801,437	786,000

Public Law Authorization: Public Law 83-703, "Atomic Energy Act of 1954"; "Executive Order 12344 (42 U.S.C. 7158), "Naval Nuclear Propulsion Program"; Public Law 107-107, "National Defense Authorization Act of 2002", Title 32, "National Nuclear Security Administration"; Public Law 108-375, National Defense Authorization Act, fiscal year 2005; Public Law 108-447, The Consolidated Appropriations Act, 2005.

OFFICE OF THE ADMINISTRATOR APPROPRIATION

[In thousands of dollars]

	Fiscal Year 2004 Comparable Appropriation	Fiscal Year 2005 Original Appropriation	Fiscal Year 2005 Adjustments	Fiscal Year 2005 Comparable Appropriation	Fiscal Year 2006 Request
Office of the Administrator Program Direction ...	352,949	356,200	851	357,051	343,869

FUNDING BY GENERAL GOAL

(Dollars in millions)

	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Dollar Change	Percent Change	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010
General Goal 1, Nuclear Weapons Stewardship:									
Directed Stockpile Work	\$1,291	\$1,277	\$1,421	+\$144	+ 11.3	\$1,459	\$1,487	\$1,516	\$1,545
Science Campaign	259	276	262	-14	-5.1	264	264	264	264
Engineering Campaign	265	261	230	-31	-11.9	172	182	165	165
ICF and High Yield Campaign	512	536	460	-76	-14.2	462	462	462	462
Advanced Simulation and Computing Campaign	715	697	661	-36	-5.2	666	666	666	666
Pit Manufacturing and Certification Campaign	263	263	249	-14	-5.3	251	251	251	251
Readiness Campaign	294	261	219	-42	-16.1	220	220	220	220
Readiness in Technical Base and Facilities	1,650	1,786	1,631	-155	-8.7	1,746	1,817	1,916	2,000
Nuclear Weapons Incident Response	96	108	119	+11	10.2	125	131	138	144
Secure Transportation Asset	186	200	212	+12	6.0	223	234	246	258
Facilities and Infrastructure Recaptialization Program	239	314	284	-30	-9.6	289	296	302	308
Safeguards and Security	629	752	740	-12	-1.6	777	815	855	897
Program Direction	297	302	284	-18	-6.0	296	307	320	332
Offset/PY Balance	-133	-341	-32	+309	-90.6	-33	-34	-35	-36
Total Goal 1, Nuclear Weapons Stewardship	6,563	6,693	6,740	+48	0.7	6,916	7,097	7,285	7,477
General Goal 2, Control of Weapons of Mass Destruction:									
Nonproliferation and Verification Research & Development	228	224	272	+48	21.4	279	288	301	312
Nonproliferation and International Security	86	91	80	-11	-12.1	82	83	85	87
International Nuclear Material Protection and Cooperation	229	295	343	+48	16.3	351	358	366	373
Global Initiatives for Proliferation Prevention	40	41	38	-3	-7.3	39	39	40	41
HEU Transparency Implementation	18	21	20	-1	-4.8	21	21	22	22
International Nuclear Safeguard and Cooperation	20	.....	.....	.....	.....	.....	.....	.....	.....
Elimination of Weapons-Grade Plutonium Production	82	44	132	+88	200	138	137	140	143
Fissile Materials Disposition	645	613	653	+40	6.5	667	680	693	708
Global Threat Reduction Initiative	69	94	98	+4	4.3	98	102	101	101
Program Direction	56	55	60	+5	9.0	62	65	67	70
Offset/PY Balances	-49	-120	.....	120	-100	.....	.....	.....	.....
Total Goal 2, Control of Weapons of Mass Destruction	1,424	1,477	1,697	+220	14.9	1,735	1,775	1,815	1,857
General Goal 3, Defense Nuclear Power (Naval Reactors)	764	801	786	-15	-1.9	803	821	839	857

	-2											
Use of PY Balances	762	801	786	-15	-1.9	803	821	839	857			
Total Goal 3, Defense Nuclear Power (Naval Reactors)												
General Goal 6, Environmental Management: Environmental Projects and Operations	182	192	174	-18	-9.4	160	132	113	117			
Total Goal 6, Environmental Management	182	192	174	-18	-9.4	160	132	113	117			
Total, NNSA	8,929	9,164	9,397	+233	2.5	9,615	9,825	10,051	10,308			

Note.—NNSA Program Direction expenditures funded in the Office of the Administrator appropriation have been allocated in support of Goals 1 and 2. Goal 1 allocation includes Federal support for programs funded by the Weapons Activities appropriation, as well as NNSA corporate support, including Federal staffing at the site offices. Goal 2 allocation includes Federal support for all Nuclear Nonproliferation programs. Program Direction expenditures for Naval Reactors, supporting Goal 3, are funded within the Naval Reactors appropriation.

FUNDING SUMMARY BY SITE

(In millions of dollars)

	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006 Office of the Admin	Fiscal Year 2006 Weapon Activities	Fiscal Year 2006 Nuclear Nonprofit	Fiscal Year 2006 Naval React	Total Fiscal Year 2006
Chicago Operations Office:							
Ames Laboratory	0.3	0.3			0.3		0.3
Argonne National Laboratory	22.1	28.7		3.2	33.0		36.2
Brookhaven National Laboratory	34.1	61.1		2.2	58.0		60.2
Chicago Operations Office	488.4	439.8	1.7	33.7	391.0		426.4
New Brunswick Laboratory	1.1	1.1			1.1		1.1
Lawrence Berkeley National Laboratory	3.8	3.0			2.7		2.7
Idaho Operations Office:							
Idaho National Engineering and Environmental Laboratory	65.8	70.5		2.3	2.8	56.4	61.5
Idaho Operations Office	1.7	1.6		1.9	0.7		2.6
Kansas City Site Office:							
Kansas City Plant	428.7	363.5		355.6	1.4		357.0
Kansas City Site Office	6.0	6.0	6.3				6.3
Livermore Site Office:							
Lawrence Livermore National Laboratory	1,208.2	1,170.6		997.5	70.2		1,067.7
Livermore Site Office	17.9	18.4	16.4	2.7			19.1
Los Alamos Site Office:							
Los Alamos National Laboratory	1,487.7	1,555.4		1,351.8	219.2		1,571.0
Los Alamos Site Office	15.6	15.5	15.5	0.9			16.4

FUNDING SUMMARY BY SITE—Continued

[In millions of dollars]

	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006 Office of the Admin	Fiscal Year 2006 Weapon Activities	Fiscal Year 2006 Nuclear Nonprofit	Fiscal Year 2006 Naval React	Total Fiscal Year 2006
MNSA Service Center:							
Atomic Energy of Canada, Ltd.	0.5						
General Atomics	14.4	13.2		14.5			14.5
National Renewable Energy Laboratory	1.8	1.8			1.8		1.8
Naval Research Laboratory	25.3	35.6					
University of Rochester/LL	62.4	72.6		45.6			45.6
MNSA Service Center (all other sites)	502.7	442.3	91.1	264.7	201.8		557.6
Nevada Site Office:							
Nevada Site Office	114.9	83.5	18.0	56.4	0.8		75.2
Nevada Test Site	369.3	335.5		376.0	1.3		377.3
Oak Ridge Operations Office:							
Oak Ridge Institute for Science and Engineering	8.4	7.8		7.9			7.9
Oak Ridge National Laboratory	118.1	171.2		8.2	173.7		181.9
Office of Science and Technical Information	0.1	0.1		0.1			0.1
Y-12 Site Office	11.7	12.4	13.1				13.1
Y-12 National Security Complex	761.3	906.0		741.9	43.7		785.6
Pacific Northwest National Laboratory	119.0	107.5		4.0	119.1		123.1
Oak Ridge Operations Office	23.7	27.5		5.9	36.3		42.2
Pantex Site Office:							
Pantex Plant	450.7	514.9		441.8	5.7		447.5
Pantex Site Office	11.5	12.0	12.3	0.1			12.4
Pittsburgh Naval Reactors Office:							
Bettis Atomic Power Laboratory	375.5	391.9				388.2	388.2
Pittsburgh Naval Reactors Office	8.6	9.1				9.4	9.4
Richland Operations Office: Richland Operations Office							
Sandia Site Office:	0.8	1.3		2.2			2.2
Sandia National Laboratories	1,462.5	1,360.2	13.1	1,119.5	137.9		1,257.4
Sandia Site Office	14.9	12.9		0.3			13.4
Savannah River Operations Office:							
Savannah River Operations Office	15.2	11.3			13.0		13.0
Savannah River Site Office	3.0	3.1	3.3				3.3
Savannah River Site	296.2	305.1		212.7	69.5		282.2

Schenectady Naval Reactors Office:									
Knolls Atomic Power Laboratory	301.8	316.8	.....	6.5	.....	308.0	314.5
Schenectady Naval Reactors Office	6.7	6.8	.....	.....	.....	7.0	7.0
Washington DC Headquarters	247.7	602.7	159.8	601.8	52.5	13.9	828.0		
Other	3.9	3.1	0.2	.....	.....	3.1	3.3
Subtotal, NNSA	9,114.0	9,503.7	350.8	6,661.9	1,637.5	786.0	9,436.2		
Adjustments	-184.4	-340.8	-6.9	-32.0	.....	.....	-38.9
Total, NNSA	8,929.7	9,163.9	343.9	6,630.1	1,637.2	786.0	9,397.2		

ATTACHMENT 1

STATEMENT OF AMBASSADOR LINTON F. BROOKS BEFORE THE SUBCOMMITTEE ON
STRATEGIC FORCES, SENATE ARMED SERVICES COMMITTEE

INTRODUCTION

Mr. Chairman, thank you for the opportunity to appear before you today to discuss nuclear weapons programs and policies. I look forward to working with you in this new area of responsibility. I also want to thank all of the members for their strong support for critical national security activities. Before I begin my remarks, I want to say how pleased I am to be on this panel today with my colleague, Gen. James E. Cartwright, Commander of United States Strategic Command, who will present the military perspective on these issues.

Today, I will discuss with you the administration's emerging vision for the nuclear weapons enterprise of the future, and the initial steps we will be taking, with your support, to realize that vision. This vision derives from the work of the Nuclear Posture Review (NPR), the August 2003 Conference at Strategic Command, the follow-on NPR Strategic Capabilities Assessment and related work on a responsive nuclear infrastructure—key elements of which are addressed in Acting Assistant Secretary of Defense Mira Ricardel's written statement submitted for the record. The Nuclear Weapons Complex Infrastructure study, currently underway and scheduled to be completed this summer, will further refine this vision. I should add that Gen. Cartwright and the Directors at our three National Laboratories have provided both leadership and creative impetus to this entire effort.

The NPR has resulted in a number of conceptual breakthroughs in our thinking about nuclear forces—breakthroughs that have enabled concrete first steps in the transformation of our nuclear forces and capabilities. The recognition of a more dynamic and uncertain geopolitical threat environment but one in which Russia does not pose an immediate threat, the broad reassessment of the defense goals that we want nuclear forces to serve, and the evolution from a threat-based to a capabilities-based nuclear force have enabled substantial reductions in operationally-deployed strategic warheads through 2012 as reflected in the Moscow Treaty. This has also led to the deep reduction, directed by the President last May, in the total nuclear weapons stockpile required to support operationally-deployed forces. By 2012 the stockpile will be reduced by nearly one-half from the level it was at the time this administration took office resulting in the smallest nuclear stockpile in decades. This represents a factor of 4 reduction in the stockpile since the end of the Cold War.

Very importantly, the NPR articulated the critical role of the defense R&D and manufacturing base, of which a responsive nuclear weapons infrastructure is a key element, in the New Triad of strategic capabilities. We have worked closely with the Department of Defense to identify initial steps on the path to a responsive nuclear infrastructure and are beginning to implement them.

Building on this progress, I want to address the current state of our thinking about the characteristics of the future nuclear weapons stockpile and supporting nuclear infrastructure. Specifically, I will address three key questions:

- What are the limitations of today's stockpile and nuclear infrastructure?
- Where do we want the stockpile and infrastructure to be in 2030?
- What's the path to get there?

In laying out these ideas, the administration hopes to foster a more comprehensive dialog with Congress on the future nuclear posture. I must first emphasize, however, that today stockpile stewardship is working, we are confident that the stockpile is safe and reliable, and there is no requirement at this time for nuclear tests. Indeed, just last month, the Secretary of Energy and Secretary of Defense reaffirmed this judgment in reporting to the President their ninth annual assessment of the safety and reliability of the U.S. nuclear weapons stockpile. Like the eight certifications that preceded it, this year's assessment is based on a collective judgment of the Directors of our National Laboratories and of the Commander, U.S. Strategic Command, the principal steward of our nuclear forces. Our assessment derives from 10 years of experience with science-based stockpile stewardship, from extensive surveillance, from the use of both experiments and computation, and from professional judgment.

WHAT ARE THE LIMITATIONS OF TODAY'S STOCKPILE AND NUCLEAR INFRASTRUCTURE?

Although nuclear weapons issues are usually contentious, I believe that most would agree that if we were starting to build the stockpile from scratch today we would take a much different approach than we took during the Cold War. Indeed,

today's Cold War legacy stockpile is the wrong stockpile from a number of perspectives. Let me explain.

First, today's stockpile is the wrong stockpile technically. Most current warheads were designed to maximize explosive yield with minimum size and weight so that many warheads could be carried on a single delivery vehicle. During the Cold War, this resulted in the most cost effective approach to meet then existing military requirements. As a result, our weapons designers, in managing risk during a period when we used nuclear tests as part of the tool kit to maintain confidence, designed closer to the so-called "cliffs" in performance. If we were designing the stockpile today under a test moratorium and to support an operationally-deployed force in which most delivery systems will carry many fewer warheads than the maximum capacity, we would manage technical risk differently, for example, by "trading" size and weight for increased performance margins, system longevity, and ease of manufacture.

Second, the legacy stockpile was not designed for longevity. During the Cold War we introduced new weapons into the stockpile routinely and "turned over" most of the stockpile every 15–20 years exploiting an enormous production capacity. Today, our weapons are aging and now are being rebuilt in life extension programs that are both difficult and costly. Rebuilding nuclear weapons will never be cheap, but decisions taken during the Cold War forced the use of certain hazardous materials that, in today's health and safety culture, cause warheads to be much more costly to remanufacture. Maintaining the capability to produce these materials causes the supporting infrastructure to be larger and more costly than it might otherwise be.

More broadly, our nuclear warheads were not designed with priority to minimize overall demands on the nuclear weapons enterprise; that is, to minimize DOE and DOD costs over the entire life cycle of the warhead which includes design, development, production, certification, surveillance, deployment, life extension, retirement, and dismantlement.

As a result of these collective decisions, it is becoming more difficult and costly to certify warhead remanufacture. The evolution away from tested designs resulting from the inevitable accumulations of small changes over the extended lifetimes of these systems means that we can count on increasing uncertainty in the long-term certification of warheads in the stockpile. To address this problem, we must evolve our strategy from today's "certify what we build" to tomorrow's "build what we can certify."

The Cold War legacy stockpile may also be the wrong stockpile from a military perspective. The Nuclear Posture Review identified a number of capabilities shortfalls in the existing arsenal that could undermine deterrence in the future. Specifically, the NPR suggested that current explosive yields are too high, that our systems are not capable against hard and deeply buried targets, that they do not lend themselves to reduced collateral damage and that they are unsuited for defeat of biological and chemical munitions. The designs of the past do not make full use of new precision guidance technologies from which our conventional systems have fully benefited, nor are they geared for small-scale strikes or flexibility in command, control and delivery. We do not know when, if ever, we will need to field new capabilities to deal with these shortfalls. Nonetheless, it is vital that we maintain the capability to respond to potential future requirements.

The stockpile we plan for in 2012 is the wrong stockpile politically because it is probably still too large. The President's decision last May to reduce the stockpile significantly was taken in the context of continued progress in creating a responsive nuclear weapons infrastructure as part of the New Triad of strategic capabilities called for in the NPR. But we have a ways to go to get there. Until we achieve this responsive infrastructure, we will need to retain a substantial number of non-deployed warheads to hedge against a technical failure of a critical warhead or delivery system, or against unforeseen geopolitical changes. Because operationally-deployed forces are dominated by two weapons types—the W76 SLBM warhead and the W80 cruise missile warhead—we are particularly sensitive to technical problems involving these systems. We retain "hedge" warheads in large part due to the inability of either today's nuclear infrastructure, or the infrastructure we expect to have when the stockpile reductions are fully implemented in 2012, to manufacture, in a timely way, warheads for replacement or for force augmentation, or to act to correct unexpected technical problems. Establishing a responsive nuclear infrastructure will provide opportunities for additional stockpile reductions because we can rely less on the stockpile and more on infrastructure (i.e., ability to produce or repair warheads in sufficient quantity in a timely way) in responding to technical failures or new or emerging threats.

Finally, today's stockpile is the wrong stockpile from a physical security standpoint. During the Cold War the main security threat to our nuclear forces was from

spies trying to steal our secrets. Today, the threat to classified material remains, but to it has been added a post-9/11 terrorist threat that is difficult and costly to counter. We now must consider the distinct possibility of well-armed and competent terrorist suicide teams seeking to gain access to a warhead in order to detonate it in place. This has driven our site security posture from one of “containment and recovery” of stolen warheads to one of “denial of any access” to warheads. This change has dramatically increased security costs for “gates, guns, guards” at our nuclear weapons sites. If we were designing the stockpile today, we would apply new technologies and approaches to warhead-level use control as a means to reduce physical security costs.

Let me turn to issues of the nuclear weapons infrastructure. By “responsive” nuclear infrastructure we refer to the resilience of the nuclear enterprise to unanticipated events or emerging threats, and the ability to anticipate innovations by an adversary and to counter them before our deterrent is degraded. The elements of a responsive infrastructure include the people, the science and technology base, and the facilities and equipment needed to support a right-sized nuclear weapons enterprise. But more than that, a responsive infrastructure involves practical and streamlined business practices that will enable us to respond rapidly and flexibly to emerging Department of Defense needs.

Our current infrastructure is by no means responsive. A nearly complete halt in nuclear weapons modernization over the past decade, coupled with past underfunding of key elements of our manufacturing complex has taken a toll on our ability to be responsive. For example, we have been unable to produce certain critical parts for nuclear weapons (e.g., plutonium parts) for many years. And today’s business practices—for example, the paperwork and procedures by which we authorize potentially hazardous activities at our labs and plants—are unwieldy. But progress is being made. We restored tritium production in Fall 2003 with the irradiation of special fuel rods in a TVA reactor, and anticipate that we will have a tritium extraction facility on-line in time to meet the tritium needs of a reduced stockpile. We are restoring some lost production capabilities, and modernizing others, so that later this decade we can meet the scheduled startups of refurbishment programs to extend the life of three warheads in the legacy stockpile. We are devoting substantial resources to restoring facilities that had suffered from years of deferred maintenance. Finally, we have identified quantitative metrics for “responsiveness,” that is, timelines to address stockpile problems or deal with new or emerging threats. These will help guide our program by turning the concept of responsiveness into a measurable reality.

That said, much remains to be done. Among other things, we must achieve the scientific goals of stockpile stewardship, continue facilities and infrastructure recapitalization at NNSA’s labs and plants, construct a Modern Pit Facility to restore plutonium pit production, strengthen test readiness, streamline business practices, and transfer knowledge to the next generation of weapons scientists and engineers who will populate this responsive infrastructure. Our challenge is to find ways to carry this out that reduce duplication of effort, support consolidation of facilities and promote more efficient operations complex-wide. I want to stress the importance of a Modern Pit Facility even if the stockpile continues to shrink—sooner or later the effects of plutonium aging will require all our current pits to be remanufactured.

WHERE DO WE WANT THE STOCKPILE AND INFRASTRUCTURE TO BE IN 2030?

Although the legacy stockpile has served us well, it was designed to meet the requirements of the Cold War era, many of which are irrelevant or inadequate today. We need to begin now to transform to the nuclear weapons enterprise of the future—this means transformation to a smaller, less costly, more easily secured, safe and reliable stockpile as well as transformation of the supporting nuclear infrastructure. The two are, of course, intertwined—we see stockpile transformation as “enabling” transformation to a responsive nuclear infrastructure, and a responsive infrastructure as essential to reducing total stockpile numbers and associated costs.

Part of transformation will be to retain the ability to provide new or different military capabilities in response to DOD’s emerging needs. Gen. Cartwright will discuss this aspect of transformation in more detail in his testimony.

But transformation involves more than retaining the capability to respond to new military requirements. My main responsibility is to assure the continued safety, security and reliability of the nuclear weapons stockpile. In this regard, even if we never received another DOD requirement for a new military capability for the nuclear stockpile, the concerns raised about our ability to assure the safety, security and reliability of the legacy stockpile over the very long term would still drive the need to transform the stockpile. And the concerns about responsiveness to technical

problems or geopolitical change would still mandate transformation of the weapons complex.

More broadly, we must explore whether there is a better way to sustain existing military capabilities in our stockpile absent nuclear testing. With the support of Congress, we are beginning a program—the Reliable Replacement Warhead (RRW) program—to understand whether, if we relaxed warhead design constraints imposed on Cold War systems (that have typically driven “tight” performance margins in nuclear design) we could provide replacements for existing stockpile weapons that could be more easily manufactured with more readily available and more environmentally benign materials, and whose safety and reliability could be assured with highest confidence, without nuclear testing, for as long as the United States requires nuclear forces. Such warheads would be designed specifically to facilitate less costly remanufacture and ease of certification of safety and reliability, and thus would reduce infrastructure costs needed to support that component of the stockpile. Because they would be designed to be less sensitive to incremental aging effects, they would dramatically reduce the possibility that the United States would ever be faced with a need to conduct a nuclear test in order to diagnose or remedy a reliability problem.

There is another reason why it is critical that we begin now to transform the stockpile. We have not developed and fielded a new warhead in 20 years, nor have we modified a warhead in nearly 10 years. We are losing expertise. We must train the next generation of nuclear weapons designers and engineers before the last generation, who honed its skills on nuclear testing, retires. If such training—and I cannot emphasize this strongly enough—is disconnected from real design work that leads to engineered systems, we will, as one laboratory director put it, “create not a new generation of weapons designers and engineers but a generation of analysts” who may understand the theory, but not the practice, of warhead development. If that happens, it would place at risk our capabilities for stockpile stewardship in the future.

Along these lines, as part of the transformation of the stockpile, we must preserve the ability to produce weapons with new or modified military capabilities if this is required in the future. Currently the DOD has identified no requirements for such weapons, but our experience suggests that we are not always able to predict our future requirements. The chief implication is that we must maintain design capability for efforts like those being carried out in the RRW program but also as a hedge against possible future requirements for new capabilities.

WHAT’S THE PATH TO GET THERE?

Let me briefly describe the broad conceptual approach for stockpile and infrastructure transformation. The “enabler” for such transformation, we believe, is the RRW program. To establish the feasibility of the RRW concept, we will use the funds provided by Congress last year and those requested this year to begin concept and feasibility studies on replacement warheads or warhead components that provide the same or comparable military capabilities as existing warheads in the stockpile. If those studies suggest the RRW concept is technically feasible, and if, as I expect, the Department of Defense establishes a requirement, we should be able to develop and produce by the 2012–2015 timeframe a small build of warheads in order to demonstrate that an RRW system can be manufactured and certified without nuclear testing.

Once that capability is demonstrated, the United States will have the option to:

- truncate or cease some ongoing life extension programs for the legacy stockpile;
- apply the savings from the reduced life extension workload to begin to transform to a stockpile with a substantial RRW component that is both easier and less costly to manufacture and certify; and,
- use stockpile transformation to enable and drive consolidation to a more responsive infrastructure.

We should not underestimate the very complex challenge of transforming the enterprise while it is operating at close to full capacity with on-going warhead life extension programs and potential evolving requirements. As a result, as we proceed down this path, we will look for opportunities to restructure key life extension programs to provide more “head room” for transformation. This could also provide, in the nearer term, opportunities to ensure appropriate diversity in the stockpile, making our nuclear deterrent less sensitive to single-point failure of a particular warhead or delivery system.

Once we establish a responsive infrastructure, and demonstrate that we can produce new (or replacement) warheads on a timescale in which geopolitical threats could emerge, and can respond in a timely way to technical problems in the stock-

pile, then we can go much further in reducing non-deployed warheads and meet the President's vision of the smallest stockpile consistent with our Nation's security.

Success in realizing our vision for transformation will enable us to achieve over the long term a smaller stockpile, one that is safer and more secure, one that offers a reduced likelihood that we will ever need to test again, one that reduces NNSA and DOD ownership costs for nuclear forces, and one that enables a much more responsive nuclear infrastructure. Most importantly, this effort can go far to ensure a credible deterrent for the 21st century that will reduce the likelihood we will ever have to employ our nuclear capabilities in defense of the Nation.

CONCLUSION

The administration is eager to work with the Congress to forge a broad consensus on an approach to stockpile and infrastructure transformation. The vision of our future nuclear weapons posture I have set forth today is based on the collective judgment of the Directors of our National Laboratories and of the Commander, U.S. Strategic Command. It derives from lessons learned from 10 years of experience with science-based stockpile stewardship, from many years of effort in planning for and carrying out the life extension programs for our legacy stockpile, and from coming to grips with national security needs of the 21st century as laid out in the NPR.

I hope that the committee finds our vision both coherent and compelling. But I must emphasize that it is simply that, a long-term vision, nothing more and nothing less. Much of it has not yet begun to be implemented in program planning, or is at the very early stages of development. But we believe it is the right vision to guide our near term planning and to ensure the Nation's long-term security. I ask for the committee's support and leadership as we embark on the path of transformation.

Thank you Mr. Chairman. I will be pleased to answer any questions.

RELIABLE REPLACEMENT WARHEADS

Senator DOMENICI. Very good. I thank you. And I think, based on what we have said, though Senator Feinstein clearly will want to proceed with some further specifics about her points of interest, you've covered most things fairly well.

I want to clarify, once again, so we'll be sure—Senator Feinstein alluded to testimony given by you heretofore before Armed Services Committee. I don't know if it's a House or the Senate—

Senator FEINSTEIN. It was the House.

Ambassador BROOKS. Senate, sir.

Senator FEINSTEIN. Was it—

Senator DOMENICI. House?

Ambassador BROOKS. The Senate. I believe the testimony—

Senator FEINSTEIN. I was—

Ambassador BROOKS [continuing]. You've got the Strategic Forces Subcommittee.

Senator DOMENICI. Okay.

Senator FEINSTEIN [continuing]. Referring to the House.

Senator DOMENICI. You were referring to the House. I'll refer to the Senate.

On, "What's the path to get there?", you commented, near the end of that paragraph, that if those studies suggest that the RRW concept, which we've just explained awhile ago, is technically feasible, and if, as I expect, the Department of Defense establishes a requirement, we should be able to develop and produce, by 2012–2015 time frame, a small build of warheads in order to demonstrate that the RRW system can be manufactured and certified without nuclear testing.

Now, I think that whatever the Senator from California is going to ask you about the House testimony, that we're probably talking about a similar concern, in terms of what is meant. So would you please elaborate? This language, "produce by, date, time frame, a

small build of warheads,” we’re not talking about building a new—

Ambassador BROOKS. No, sir, we are not.

Senator DOMENICI [continuing]. Nuclear weapon.

Ambassador BROOKS. Here’s what will happen if there were no RRW program. We will take the warheads for the W76, the most numerous warhead in the stockpile, and we will put it through a Life Extension Program.

Senator DOMENICI. Right.

Ambassador BROOKS. And, at the end of that Life Extension Program, we will have a large number of warheads, which are identical—and so, subject to common-point failure; if something’s wrong, it affects lots of warheads—and are built with all the Cold War constraints that I talked about.

So, what I am suggesting in that testimony is, if the research that we propose to conduct under the RRW program suggests that we can replace components in that warhead in a way that makes it safer to conduct surveillance, that reduces the amount of difficult materials in there, then the Department of Defense could formally say, “That’s a good idea.” And so, instead of taking the whole W76 force and rebuilding it, as built, we would rebuild some of them using these new concepts. What we would then have is a fraction of our warheads that were less subject to the problems that you inherently get because of the way we designed warheads when the single-most important thing was to put the maximum yield into the smallest weight. And I’m suggesting it might be possible to do that by 2012 or 2015. That’s not a decision we’ve made; we don’t know enough to make the decision. We know—

Senator DOMENICI. In any event, when the decision is to be made, the word—the words “a small build” does not mean a small build of new warheads.

Ambassador BROOKS. No, it means—

Senator DOMENICI. In any—

Ambassador BROOKS [continuing]. It means a small number of modified or remanufactured warheads—

Senator DOMENICI. Parts.

Ambassador BROOKS [continuing]. Incorporating—

Senator DOMENICI. Different parts.

Ambassador BROOKS [continuing]. These concepts, yes, sir.

Senator DOMENICI. Because that’s being done pursuant to language—it’s called “reliable replacement”—

Ambassador BROOKS. Yes, sir.

Senator DOMENICI [continuing]. “Program”—

Ambassador BROOKS. Yes, sir.

Senator DOMENICI [continuing]. Not of the missile, but Reliable Replacement Warhead program.

Ambassador BROOKS. Yes, sir, that’s correct.

Senator DOMENICI. And nobody’s suggested that we are not supposed to do that, because, as a matter of fact, that’s what the whole effort that science-based stockpile stewardship is directed at.

Ambassador BROOKS. Yes, sir.

Senator DOMENICI. To find out whether they still have durability, whether they’re still safe, whether they’re still reliable. And if they’re found not to be, we’re not supposed to decide, “That’s the

end of it, we shut 'em all down"; we're supposed to know about that, and something's supposed to happen.

Ambassador BROOKS. That's correct, sir.

TEST-SITE READINESS

Senator DOMENICI. Which comes to the next question. We have never said, to my knowledge, that we are going to close down the Nevada test range. As a matter of fact, even when we decided on the moratorium, my recollection is, we said it will have to constantly be maintained so that it will be ready if we need it. Is that correct? In, maybe, different words, but—

Ambassador BROOKS. That is correct. And the issue—and I do want to make a slight modification to one of those things made in the opening statement—the \$25 million that is in this budget for test-site readiness, much of that is required as long as you're going to keep the test site ready at all. That's a relatively small fraction—and I'd have to give you the exact number for the record that is devoted to shortening that readiness. But we—

Senator DOMENICI. Well, Mr. Ambassador, we can argue that out up here, in due course, but, you know, some of us have thought, from—for a long time, 4 or 5 years, that the question is—should come up, and the Department would be put in a bad position when it was raised, that if we ever needed the range, it wasn't ready.

Ambassador BROOKS. Yes, sir, I agree with that.

[The information follows:]

UNDERGROUND NUCLEAR TEST READINESS

The fiscal year 2006 President's budget request includes \$25 million to maintain test readiness timelines that are consistent with administration policy. The test readiness budget is thus less than 8 percent of the total funding to Nevada that directly or indirectly supports a viable test site. The test readiness budget pays for items not exercised by the experiment and infrastructure funds as detailed below. Test readiness examples are authorization basis documents and safety analyses for underground nuclear tests, updating of test procedures and agreements with local governmental authorities, the design and manufacture of Field Test Neutron Generators, new diagnostics, a study of seismic effects on the Las Vegas valley and maintenance of specialized equipment.

The test readiness budget is actually a small portion of the funding required to maintain the Nevada Test Site in a condition that would allow the NNSA to conduct an underground nuclear test. The bulk of the funding that maintains the Nevada Test Site comes from the amounts provided by the NNSA to Bechtel Nevada for maintenance of infrastructure and for the conduct of experiments in support of the stockpile stewardship program; for example the underground subcritical experiments. These funds total approximately \$300 million.

Senator DOMENICI. And it might take a long, long time to get it ready. So what's the use of saying you ought to maintain it, if it takes 5, 6 years to get it ready? And you're saying it just happens that, at this point in history, we're saying it's time to do some improvements; and we conclude, therefore, we must be getting ready to test new weapons, which is not the case. Is—

Ambassador BROOKS. That is not—

Senator DOMENICI [continuing]. That correct?

Ambassador BROOKS [continuing]. The case.

Senator DOMENICI. All right. Now, that's not going to be believed by everybody, you understand. Some people are going to—

Ambassador BROOKS. True, nonetheless, sir.

Senator DOMENICI [continuing]. Some are going to say that isn't true. Maybe the lady on my right will say that isn't true. But I don't know who else to ask. I don't know who—we could put you all under oath, maybe we can ask that every person that has anything to do with it all swear that it isn't, but I'm—you know, I happen to believe that we need to improve the range. It's a great asset. And I hope we never use it. But I am one that does not believe it is absolutely certain that we will never have to use it. I'm not one of those, and I would never vote, and would probably do the best I could to see that that didn't happen.

NUCLEAR WEAPONS COMPLEX INFRASTRUCTURE STUDY

Now, having said that, there's three or four more, and I may submit them, but let me talk a little bit with you about the—whatever is going on in terms of a nuclear weapons complex infrastructure study.

Ambassador BROOKS. Yes, sir.

Senator DOMENICI. Now, I understand that there is such a study. I understand that it might have been time for such a study. And I have no argument with who's on it or that they have been—whether or not they've been busy trying to study and inventory. I understand they have. What I don't—what I'm very worried about—you see, I've been here long enough to know about a lot of studies, and there's lots of them been done that nothing happened. And I'm not so sure that's all good or bad. As far as us having done so many on security, I think that's very bad. We had at least five on what's wrong with security, and we never did anything. But we've had a lot of them, including one by the distinguished son of the founder of Motorola, a great doctor, who's now very old. But, anyway, he did a study, that carries his name, on how we should do this, how we should consolidate them. You might remember the—

Ambassador BROOKS. Yes, sir. The Galvin report, sir.

Senator DOMENICI. What's the name of the man?

Ambassador BROOKS. I think it's the Galvin report.

Senator DOMENICI. Yeah, Galvin. You know, he was looking about privatization and streamlining. Everybody looked at that and threw it away, too.

So, all I'm worried about is, whatever this study is, am I correct that, No. 1, it's not done—not finished?

Ambassador BROOKS. It's not done.

Senator DOMENICI. No. 2, nobody's signed onto it yet, is that right?

Ambassador BROOKS. That's correct.

Senator DOMENICI. The Secretary hasn't committed to any parts of it. Is—

Ambassador BROOKS. That's correct.

Senator DOMENICI [continuing]. That right?

Ambassador BROOKS. Yes, sir, that's correct.

Senator DOMENICI. You don't even know whether it's going to be the kind of thing that, in toto, you will support. Is that right?

Ambassador BROOKS. That's correct.

Senator DOMENICI. And there are people passing around ideas about what might be in it. You don't vouch for those, even if they come from your Department, right?

Ambassador BROOKS. That's correct.

Senator DOMENICI. There are some talking about which lab's going to grow, which lab's going to lose, which lab's going to have what. You have made no such decisions—

Ambassador BROOKS. We have made no such decisions, and it would be premature to do so. We've asked for a broad-based, open-ended, think-out-of-the-box study. And when we get it, we'll look at it, figure out what—

Senator DOMENICI. Right.

Ambassador BROOKS [continuing]. Makes sense and what doesn't.

SECURITY AT LOS ALAMOS NATIONAL LABORATORY

Senator DOMENICI. Now, I have just one last thing that really worries me. You know, it has—for a long time, Los Alamos National Laboratory has been synonymous with excellence. We all know that there's competition. Sandia is not competition, because they're different. Lawrence Livermore was built to be competitive. But it's only recently that, in the area of design and building and verifying the adequacy of our nuclear weapons, that—it's only recently that Lawrence Livermore has reached the heights that it has, vis-a-vis Los Alamos. Is that not correct? In the last 10 or 15 years. Los Alamos was premier, and building more and designing more—

Ambassador BROOKS. That's certainly true.

Senator DOMENICI. Right.

Now, what worries me, Mr. Secretary, is that they've had some problems on security, they've had some problems on management, but is it fair to say that none of that has impeached their competence and distinction as a great laboratory that has significant use and need to the defense of our country and to nuclear weaponry?

Ambassador BROOKS. Absolutely. The science at Los Alamos, as at other labs, is absolutely superb. Our concern with the safety and the security and management problems is because you've got to get them fixed so they can get back to doing what they do well, in science. I think we're making progress. The jury's still out on whether we're all the way there in fixing those problems.

Senator DOMENICI. Thank you very much.

Now, we'll go—Senator, you were here first, Senator Allard, so we're going to go to you, and then Senator Feinstein.

NUCLEAR WEAPONS STOCKPILE

Senator ALLARD. Mr. Ambassador, one of the things that seems to be happening, and I want you to verify this, is, throughout the world we continue to have countries that seem to be making nuclear weapons—Pakistan; India, I think, is of note; North Korea is—appears to be going that direction, they claim they are; and Iran, big question mark. I haven't heard Russia say anything about the fact that they've taken away their ability to produce more nuclear weapons, like we have done. And a number of other countries, some of them in the European community, seem to maintain that

capability, and yet we no longer are producing nuclear weapons. In fact, this President has called for a reduction in the nuclear warheads, through the stockpile. We've done more than that; we've even—actually pulled down some of our readiness, as far as nuclear warheads, with the Peacekeeper.

Ambassador BROOKS. Yes, sir.

Senator ALLARD. And a question that comes to mind—in comparison to what's happening with other countries, have—and maybe just from our own historical point of view, we have—I think we've had nuclear weapons stockpile down to the lowest level it's ever been for some time. Can you give me some idea of how we are, comparatively, historically, in the United States?

Ambassador BROOKS. When—

Senator ALLARD. I suspect we're down to historical levels.

Ambassador BROOKS. When the reductions the President approved last May are implemented in 2012, the stockpile will be lower than it has been in my professional lifetime. And I've been around for quite awhile.

I can't be more precise than that, because—

Senator ALLARD. It's a sensitive—

Ambassador BROOKS [continuing]. By long practice, the exact stockpile numbers, we do not discuss publicly, although I'll be more than happy to be very specific. And there's a report—

Senator ALLARD. In a—

Ambassador BROOKS [continuing]. For the Congress on this.

Senator ALLARD [continuing]. Different situation. I understand that. But, you know, I think we've made substantial gains in that, and I kind of—my view is that we can even do a better job if we have an opportunity to study what's happening in the stockpile. If we had a better understanding of what happens with aging—

Ambassador BROOKS. Right.

Senator ALLARD [continuing]. The various elements in the triggers, and had a better idea of what, you know, future risks might be. And it seems to me that with these studies, we could begin to resolve some of these questions, and maybe even have an opportunity to reduce that nuclear stockpile even more; particularly in the fact that our ability to target precisely is out there. And so, I'd like to hear you respond to that.

Ambassador BROOKS. Yes, sir. I believe, right now, that there are—first of all, the President has made it very clear, throughout his term in office, and even before, that he seeks the lowest nuclear weapons stockpile that's consistent with our national security. And he's demonstrated that through the actions that he took last year.

I believe that a more responsive infrastructure and a series of weapons that are easier to maintain will allow us to reduce further the number of spares that we keep; and, thus, continue to lead the world in showing nuclear restraint.

ADVANCED CONCEPTS

Senator ALLARD. And I think it's something that we can be proud of, but I also think that somehow or the other we have to be sure that we're able to maintain some sort of defensive structure, some deterrence that goes with that, where—

Ambassador BROOKS. Yes, sir.

Senator ALLARD [continuing]. Where we don't—we don't have our missile defense system in a posture yet where it's reliable. And so, we still have to rely, to a certain degree, on mutual-assured-destruction approach in order to prevent some of our adversaries from overstepping, I think, in many cases.

And is it fair to say that all you want to do at this point is to study concepts on what is actually feasible?

Ambassador BROOKS. Yes, sir.

Senator ALLARD. And nothing more?

Ambassador BROOKS. That's correct.

Senator ALLARD. And it's pretty clear, as I think we've mentioned time and time again, that our legislation there is set, we don't provide dollars for anything more than just a study.

Ambassador BROOKS. Yes, sir, that's absolutely correct.

Senator ALLARD. And so, I think it's pretty clear.

How much money is in your 5-year plan for this study?

Ambassador BROOKS. For the Robust Nuclear Earth Penetrator, \$4 million in the budget that's before Congress, \$14 million in what we project for 2007, and that's all.

Senator ALLARD. Is that enough money to complete the study?

Ambassador BROOKS. It's enough money to complete the study.

Senator ALLARD. So, not only do we not have any money in there for any production at all, we just don't have—

Ambassador BROOKS. We don't have any money for engineering development, either.

Senator ALLARD. We don't have enough money to complete the study.

Ambassador BROOKS. We'd have to come back to you twice more before you could get—

Senator ALLARD. Before you could have development.

Ambassador BROOKS [continuing]. To have the debate on production.

Senator ALLARD. Very, very good point.

Senator DOMENICI. Senator, would you yield on that?

Senator ALLARD. Yes, I'll be glad to yield.

RELIABLE REPLACEMENT WARHEAD

Senator DOMENICI. Senator, while you're on that question, we should follow up with a Reliable Replacement Warhead, which is right on line with what you're talking about, which is not the big penetrator.

Ambassador BROOKS. That's correct.

Senator ALLARD. That's correct. That's correct.

Senator DOMENICI. And that's a small amount of money, too.

Senator ALLARD. That's correct.

Senator DOMENICI. But it's also evaluating—and could you tell us how much money is in that?

Ambassador BROOKS. \$9.4 million.

Senator DOMENICI. So anybody who thinks that's building warheads—I mean, you know, you can't even get the team hired if you're talking about that.

Senator ALLARD. I agree with you, Mr. Chairman.

And I'd like to address this—you know, we do have support from the Pentagon, and we've had—earlier this year, General Cart-

wright, Commander of U.S. Strategic Command, testified before the Senate Armed Services Committee that he strongly supports a study of the capabilities of a Robust Nuclear Earth Penetrator for the purpose of determining whether it can hold certain high value and deeply buried targets at risk. And, as I understand what his comments were, it's not—the result would not be a new nuclear weapon.

Ambassador BROOKS. That's correct.

Senator ALLARD [continuing]. And——

Ambassador BROOKS. But——

Senator ALLARD [continuing]. And you can——

Ambassador BROOKS. The result of this will just be a study.

Senator ALLARD. Yes. That is very important. And if the military needs to better understand the capabilities of any of these new technologies, it seems to me that you've got to do some studying. To do anything else seems to me totally irresponsible if you're concerned about the defense of this country.

Once the study is complete, and if the military asks you to further investigate, will you come back to the Congress for permission?

Ambassador BROOKS. Yes, sir. Not only because that's sensible, but because I'm not allowed to do anything else. I can't go beyond the study stage without a separate act of Congress, and if I go into engineering development, then I can't go to production without a third act of Congress, and each of those has to be preceded by a decision by the President. So, we are a long way from actually having a debate over fielding anything, if we ever get there. And I don't have any idea what will happen after the results of the study. It will depend, in part, I suspect, on our progress at holding these targets at risk conventionally, which is everybody's preferred method.

POTENTIAL ADVERSARIES NUCLEAR WEAPONS ACTIVITIES

Senator ALLARD. And, to kind of wrap up behind my starting comments, have you seen any evidence that would suggest that our potential adversaries have ceased their nuclear weapons activities in the last 20 years? Of course, Libya—I think maybe that would be the only example, but, other than for that——

Ambassador BROOKS. Well, yes——

Senator ALLARD [continuing]. Have you seen any evidence?

Ambassador BROOKS [continuing]. Of potential adversaries, Libya's probably the only example. South Africa is the other example of a country that clearly went the nuclear route, and then appears to have walked back from it.

There is certainly evidence that the Russian Federation is reducing their overall deployed levels, but they continue to produce nuclear weapons. And I believe that to be true of all of the nuclear powers, both the recognized ones—with the caveat that our knowledge of what's actually happening in North Korea is not as detailed, your comment is correct, they have stated they have nuclear weapons, they have shown things to visitors, which the visitors say looked like nuclear weapons, but it's not hard to make something that looks like nuclear weapons. I don't know if they have nuclear

weapons. The general assessment of almost everybody is, they do; but numbers are——

Senator ALLARD. Hard to come by.

Ambassador BROOKS [continuing]. Very difficult to——

Senator ALLARD. Yeah.

Ambassador BROOKS [continuing]. To ascertain.

WEAPONS LABORATORIES STAFFING

Senator ALLARD. And, you know, from a manpower standpoint in our laboratories, would you comment on the manpower shortage—I'd call a critical manpower shortage—on the know-how of how to manage these weapons with our physicists and scientists?

Ambassador BROOKS. I want to distinguish two things. Particularly in the aftermath of 9/11, the combination—what always attracts people to the weapons laboratories is a combination of very great science and the opportunity to serve the country, from a security standpoint. I think there are many more young scientists now for whom national security is a motivator in the aftermath of 9/11. And so, I think, in terms of the new Ph.D. at the beginning of his or her career, we're not doing too badly.

The area where we're very worried is the people who have had the experience of facing tough design challenges. And those people are disproportionately, almost exclusively, in their late 50's and older, and they will be retiring. One of the things that we will get from the RRW program, which requires the same kind of intellectual skill of understanding in these very complex entities—if you change this, if you take out this material that you put in, after all, for a reason, if you replace this with a simpler component, what happens? And exercising those skills by the older generation will provide a way to mentor the younger generation and to kind of pass on some of that hard-won knowledge. It's also true that, because of the success of science-based stockpile stewardship, we are gaining greater technical and conceptual understanding. And so, the new generation will be able to learn, by looking at analysis, things that the older generation had to learn by going out and doing underground testing.

So, I think it's important to worry. I am not panicked about this. I mean, you know, some of these people, they're national treasures, and when they leave it's going to be very tough to replace them. I refer to my colleague on my left.

SECURITY AT WEAPONS LABORATORIES

Senator ALLARD. Mr. Chairman, one final point. You have referred, in your comments, about the security at the laboratories. The Ambassador's referred to the security of the laboratories. And I remember a comment by Senator Simpson one time, who says, "How soon they forget." And it seems to me we have forgotten about some of our security issues at our labs and some of the problems we've had in the past, and how we're trying to correct those. And when we have the reductions in spending, one of the first things that come to my mind, how are we going to maintain the proper security environment that we need around those labs?

And I'll conclude with that. Thank you.

Ambassador BROOKS. Yes, sir.

Senator DOMENICI. Senator Feinstein.

Senator FEINSTEIN. Thank you very much—

Senator DOMENICI. Thank you very much, Mr. Ambassador.

RELIABLE REPLACEMENT WARHEADS

Senator FEINSTEIN [continuing]. Thank you very much, Mr. Chairman.

I would like, if I might, if you would approve, place in the record some letters on the RRW, my letter of February 9 to Secretary Bodman, his response of March 4, and my subsequent letter of April 12.

Senator DOMENICI. They're part of the record, if that's what you desire.

Senator FEINSTEIN. Thank you very much.

[The information follows:]

DIANNE FEINSTEIN
CALIFORNIA



COMMITTEE ON APPROPRIATIONS
COMMITTEE ON ENERGY AND NATURAL RESOURCES
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION
SELECT COMMITTEE ON INTELLIGENCE

United States Senate
WASHINGTON, DC 20510-0504
<http://feinstein.senate.gov>

February 9, 2005

The Honorable Samuel Bodman
Secretary
United States Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Secretary Bodman:

Thank you for taking the time to come to my office last week to discuss FY 06 funding of the Robust Nuclear Earth Penetrator (RNEP) program. I appreciate your effort in coming to me personally about this and hope that we can maintain an ongoing dialogue on this important subject.

My purpose in following up with you is to request additional information on the Department of Energy's Reliable Replacement Warhead program.

Specifically, I would like to know:

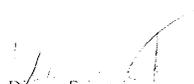
- What is the purpose and scope of the program?
- Is the goal to replace existing warheads with new designs or warheads or to refurbish and increase the reliability of existing nuclear warhead types?
- Will the program lead to nuclear testing?
- Could this program lead to the introduction of new nuclear weapons?

The Fiscal Year 2005 Omnibus appropriations bill provided \$9 million for the program and the President's FY 2006 budget requests an additional \$9 million. In a February 7, 2005 article in the *New York Times*, John Harvey, director of policy planning at the National Nuclear Security Administration called the program "important" and stated that "the goal is to see if we can make smarter, cheaper and more easily manufactured designs that we can readily certify as safe and reliable for the indefinite future and do so without nuclear testing."

As we discussed in our meeting last week, I have worked to eliminate funding for "low yield" nuclear weapons and the Robust Earth Nuclear Penetrator (RNEP) because I believe such programs could re-open the nuclear door and seriously undermine U.S. national security interests and nuclear nonproliferation efforts. It is important for me to understand that the Reliable Replacement Warhead program will make a positive contribution to the safety and reliability of existing warheads and is not another attempt to resume nuclear testing and field new nuclear weapons.

Again, I enjoyed meeting you last week and I look forward to working with you on issues of mutual concern in the future. Thank you for your attention to this request and I look forward to hearing from you.

Sincerely,



Dianne Feinstein
United States Senator

DF:kl



The Secretary of Energy
Washington, DC 20585

March 4, 2005

The Honorable Dianne Feinstein
United States Senate
Washington, D.C. 20510

Dear Senator Feinstein:

I have received your letter dated February 9, 2005, concerning the Reliable Replacement Warhead (RRW) program. I appreciate the opportunity to continue our dialog on nuclear weapons issues and, in particular, to provide you with additional information about the RRW program.

I assure you that whatever path the RRW program takes, we will be well-coordinated with the Department of Defense (DoD). We will follow all applicable Department of Energy and DoD guidance specified by the Congressionally established Nuclear Weapons Council and will fully meet our obligations to the Congress.

Specifically, to answer your questions:

What is the purpose and scope of the program? In order for the United States to sustain the nuclear weapons stockpile indefinitely, we believe it will be necessary to have the capability to replace most of the components in the weapons in the present stockpile. Therefore, we are beginning a program to understand whether, if we relaxed some of the warhead design constraints imposed on Cold War systems (e.g., high yield to weight ratios), we could provide components for existing stockpile weapons that could be more easily manufactured and whose safety and reliability could be certified with assured high confidence, without nuclear testing. We intend that such an effort will also result in reduced infrastructure costs for supporting the stockpile.

Is the goal to replace existing warheads with new designs or warheads or to refurbish and increase the reliability of existing nuclear warhead types? In the past, during the Cold War, when we were "turning over" the stockpile every 20 years or so, our modernization efforts generally focused on fielding new warheads with new military capabilities. The RRW program is different. The focus is to extend the life of those military capabilities provided by existing warheads. Thus I expect warheads that might ultimately result from this program to meet the military capabilities of the warheads they replace and to be delivered by existing delivery systems. We need to complete the concept and feasibility studies before we can characterize specific features of feasible RRW options in detail.

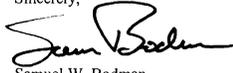
Will the program lead to nuclear testing? No. The intent of the RRW program is to identify replacement options that could be fielded without nuclear testing.



Could this program lead to the introduction of new nuclear weapons? The focus of the RRW program is to extend the life of those military capabilities provided by existing warheads, not develop warheads for new or different military missions. If, in the future, the DoD identifies requirements for new or different military capabilities, it is conceivable that certain of the concepts identified in the RRW program could be applied in the development of warheads to meet those new requirements. That is not, however, the purpose of the RRW program and, in any event, no new warhead could be developed or fielded without the specific authorization of Congress.

If you have any questions, please contact me or Ms. Jill Sigal, Acting Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,



Samuel W. Bodman

DIANNE FEINSTEIN
CALIFORNIA



COMMITTEE ON APPROPRIATIONS
COMMITTEE ON ENERGY AND NATURAL RESOURCES
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION
SELECT COMMITTEE ON INTELLIGENCE

United States Senate

WASHINGTON, DC 20510-0504

<http://feinstein.senate.gov>

April 12, 2005

The Honorable Samuel Bodman
Secretary
United States Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Secretary Bodman:

Thank you for your March 4 response to the letter I sent you regarding the Reliable Replacement Warhead (RRW) program. I appreciate your willingness to engage in a dialogue on nuclear weapons issues and would like to take this opportunity to ask a few additional questions.

In your letter you state that the purpose and scope of the RRW program is to determine whether "we could provide components for existing stockpile weapons that could be more easily manufactured and whose safety and reliability could be certified with assured high confidence, without nuclear testing". In addition, the focus of the program "is to extend the life of those military capabilities provided by existing warheads, not [to] develop warheads for new or different military missions."

I appreciate these assurances about the goal of the RRW program. I was concerned, however, that you noted the RRW effort as possibly being a springboard for the development of a new generation of nuclear weapons. Specifically, you assert that "if, in the future, the DoD identifies requirements for new or different military capabilities, it is conceivable that certain concepts identified in the RRW program could be applied in the development of warheads to meet those requirements."

Your statement leaves open the possibility that research associated with the RRW program could be used for the development of new warheads with new military capabilities at a later time. In addition, your letter does not specifically rule out the development of "new" warheads as a part of the current program.

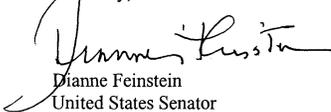
Given my concerns, I would appreciate clarification on the following points:

- When you state that "certain concepts" in the RRW program may serve as the basis for "new or different military capabilities", what exactly do you mean? Please provide a comprehensive explanation as to (1) what these "certain concepts" are, and (2) how exactly appropriated funds for the RRW may be expended to develop these "certain concepts."
- When you state that it is "conceivable" that "certain concepts identified in the RRW program applied in the development of warheads" could lead to "new or different military capabilities", how likely is this? Do you have any information indicating that DoD has begun the process of identifying requirements for such new or different military capabilities? If so, what is that information?

As you know, I strongly believe that the development of new nuclear weapons will only encourage the very proliferation we are trying to prevent thereby putting American lives and U.S. national security interests at risk. Congressional support for the RRW program will depend on a clear and unambiguous statement of its scope, purpose, and goals to ensure that it is consistent with our nonproliferation efforts and will not lead to unintended results.

Thank you for your attention to this request and I look forward to hearing from you.

Sincerely,



Dianne Feinstein
United States Senator

DF:rwH

Senator FEINSTEIN. In the Secretary's March 4 response to me, to the question, "Could this program lead to the introduction of new nuclear weapons?", here is his response, "The focus of the RRW program is to extend the life of those military capabilities provided by existing warheads, not develop warheads for new or different military missions. "If"—there's always an "if" or a "but"—"If, in the future, the DOD identifies requirements for new or different military capabilities, it is conceivable that certain of the concepts identified in the RRW program could be applied in the development of warheads to meet those new requirements."

Now, how does that not open the door to new nuclear weapons?

Ambassador BROOKS. Let me try, Senator. And let me—and I—we have a problem. I mean, we, on my end of the street. And our problem is, we want to be as complete and accurate as possible so we can't be accused of misleading the Congress. Knowledge is fungible. Everything I learn doing anything associated with a nuclear weapon potentially will help me if the Department of Defense ever decides they want something fundamentally new. We just gave an example. We're going to get people who are going to learn to think a little bit about, "What does it mean you do this or that to change component of a weapon?" And so, what the Secretary meant when he wrote that was to simply make it clear that we acknowledge the inevitable, inescapable fact that if you learn more things you can use that knowledge in a variety of ways. We wanted to recognize that fact, then make it clear that's not why we're doing this program. We don't envision this program as leading to new weapons.

I think, as the Secretary's letter says, it's not the purpose of the RRW program, and I think he also, if I remember his letter correctly, acknowledged—I mean, he'd have to remind you; you know, but he wanted to make sure you knew that he knows that we couldn't go forward on anything without the Congress.

Senator FEINSTEIN. Oh, I understand that. And you—I saw the twinkle in your eye, because you know that we fenced the program. I think it's at 6.3. And—

Ambassador BROOKS. Yes, ma'am.

Senator FEINSTEIN [continuing]. So, my next question was going to be—I would assume, then, that 2007 takes you up to 6.3.

Ambassador BROOKS. Are we talking about the—

Senator FEINSTEIN. We're talking about the bunker buster.

Ambassador BROOKS [continuing]. Going beyond 2007 would take you—2007 is 6.2—

Senator FEINSTEIN. 2007 is—

Ambassador BROOKS [continuing]. 6.2.

Senator FEINSTEIN [continuing]. 6.2?

Ambassador BROOKS. Yes, the same as 2005. 2006–2007 are the same thing, in terms of that classic definition of the steps you go. To go beyond would require, (a) money we haven't programmed, and, (b) approval you haven't given.

Senator FEINSTEIN. Right. And that's when—to go into 6.3—

Ambassador BROOKS. Yes, ma'am.

Senator FEINSTEIN [continuing]. Which is the more active engineering—

Ambassador BROOKS. Engineering development.

Senator FEINSTEIN [continuing]. You would have to come back to us for—

Ambassador BROOKS. Yes, ma'am.

RELIABLE REPLACEMENT WARHEADS

Senator FEINSTEIN [continuing]. Permission. Yes, I think that's good.

Now, back to the RRW. You don't plan on testing these new warheads?

Ambassador BROOKS. No. No. In fact, as we go to the laboratories and ask them to start thinking about what approach they might use, technically, to this component replacement, one of the con-

straints we're going to put is, they have to be able to say they believe that they'll be able to certify—that is, if they—whatever we choose to replace, whether it's the explosive or remove certain materials, we're actually going to be able to certify that without nuclear testing. There's absolutely no intent that this program be—

Senator FEINSTEIN. See, that's another thing. I find it hard to believe that you would actually develop a new warhead as a replacement that would go into a military situation without actually testing it before. I find it difficult to believe that a President wouldn't want it tested.

Ambassador BROOKS. Well—and I would have found it difficult to believe 15 years ago. That's why we've come to you for the last decade to get all this money for science-based stockpile stewardship, because what we will do is constrain the changes that we make to those that we don't need to use underground testing. And because we have a better understanding, both of subcritical experiments, things that aren't nuclear testing, as you're using the term, because we have better computation, that'll still let us do modification. I mean, that's not new. When we do the life-extension programs, I say we rebuild them just the way they were built, and that's not actually—

TEST READINESS

Senator FEINSTEIN. And then why move up time-to-test to 18 months? Why is that—

Ambassador BROOKS. A completely different reason, unrelated to RRW. The—and here's how we got to 18 months. We believe that there is no need to test now. We don't foresee any need to test. But if our surveillance program reveals a serious problem with a warhead that is crucial to the stockpile, I certainly, and I expect the professional military, would go to the President and say, "We may need to test, either to confirm the problem or to make sure of the fix." Now, if you look back in history when we were testing, and when we did see problems, and you say, "About how long did it take us from the identification of the problem to when we were ready to do an experiment and design it?"—and a lot of this stuff you can't do in advance, because you don't know what the problem is—18 months seemed to be a roughly appropriate number. Shorter than that, and you were paying money for readiness you couldn't use, because the experiment wouldn't be ready. Longer than that, and you were running the risk of being ready to test to find out whether you had corrected an important problem, but the test site wasn't ready. That's 18 months.

Is 18 the right number? Well, 17 or 20. I mean, nobody can tell you that. That's—18 is certainly better than 3 years. Is it a big deal between the 24 months and—I don't—that's how we got to 18, and there's not a whole lot more science to it than that.

Senator DOMENICI. You can go ahead, sir.

RELIABLE REPLACEMENT WARHEADS

Dr. BECKNER. Yes, could I? Let me return to the question of RRW and whether that inevitably might lead you to the need to test. The fact is that the designs that will be worked on within that concept will go back in time to earlier designs, which were heavier,

in some cases larger, but for which we do have a database. It's fairly old, but, as you know, weapons have been tested now for many, many years, over 1,000 of them. So, the intent is, when they work on these ideas, is to utilize data that does tie back to—

Senator FEINSTEIN. The test.

Dr. BECKNER [continuing]. Former tests. So, we're not going to go out into completely new territory with any of these ideas.

PITS

Senator FEINSTEIN. Okay. Now, two I-can't-understand-for-the-life-of-me questions. The first I-can't-understand-for-the-life-of-me question is why you need 450 pits, why you've been so persistent on 450 pits, when everything I read says you don't need 450 pits to modernize your present fleet. And the report on the—

Ambassador BROOKS. Says we don't need it.

Senator FEINSTEIN [continuing]. Quality isn't due until 2006. So why are you moving so aggressively, and have been for the last couple of sessions, toward 450 pits?

Ambassador BROOKS. Senator, with the greatest respect, nobody who works for me, or nobody for whom I have worked for, has ever said 450. What we did was, when we did the environmental impact statement for NEPA, we took the broadest possible range. I've forgotten how they got the upper limit, but they said we had to analyze within the broadest possible range. I have said before, and I will say now, I think it is very difficult to imagine anything like 450. I believe the report we submitted to Congress said that we thought it would probably be in the range of 150.

Let me explain to you what—the reason for the fuzziness. Let's say that the Congress lifts the restriction, I get the site, and we build this thing, and it starts producing pits around 2020. At that point, the newest pit in the stockpile will be 30 years old, because we stopped making them. We don't talk about specific numbers of the stockpile, but let's just say that you had 3,000 weapons deployed, spare pits that aren't in there. Let's just say you had 3,000. I made the number up. All right? If, in fact, it turns out that the lifetime of plutonium is 45 years, then we have 25 years left on that lifetime to get through all 3,000 of those. So, you say, okay, and you do a simple division, and you get about 150.

If, on the other hand, you delay the modern pit facility and nothing else changes, but you delay it 5 years, now all of a sudden you've got a shorter time to get through that same number of pits. And so, the number you have to put through each year goes up. If the number is greater than 3,000, then, obviously, you have more.

So we've got a number of variables we don't know. The way you make—so the way you hedge against that is, you say, well, with most plausible stockpiles, you can convince yourself you're going to need about 150, and then you have the capability sometime in the next decade, if that turns out to be the wrong number, because, in fact, plutonium lifetime is much shorter than we now expect, then you expand it.

The reason you don't want to wait and say, "Well, let's do all of the analysis that will let us narrow down the lifetime of plutonium": two reasons. First, the way science really works is, we won't

have a clear answer that everybody will agree on; we'll just have a technical scientific disagreement with more data. I mean, I predict that's what will happen. But, secondly, suppose we do have a consensus and it turns out that we're really near the short end of the thing. Then, in order to get through turning over the stockpile, I have to build this bigger than I need. If it turns out that we erred and that the lifetime of pits is much longer than we expected, then sometime in the next decade this committee or its successor will be able to crank back on some ongoing funding. The first one could put the program at risk; the second one does not.

So, it is my view that the right thing to do is to go forward with the design, keeping as many options as possible open, but the reason you can't understand why we'd want 450 pits a year is, there is no reason we want 450 pits a year. I think that's just way too high, unless we hold off this thing so long that you've got to turn the whole stockpile over in a very short time.

Senator FEINSTEIN. I thank you. Now I have to go home and do my homework on the actual fleet, and do those numbers—

Ambassador BROOKS. Yes, ma'am.

Senator FEINSTEIN [continuing]. And on the expected lifetime—

Ambassador BROOKS. Yes, ma'am.

Senator FEINSTEIN [continuing]. And do those numbers—

Ambassador BROOKS. And I—

Senator FEINSTEIN [continuing]. Which we will do.

Ambassador BROOKS. At least to save you the math, I commend you the report on pit lifetime, which I will make sure your staff has a copy, which looks at this parametrically. It looks at all the conceivable lifetimes, and it will—you know, you pick what you believe is likely to be true, and then it'll give you the answer. It's—

ROBUST NUCLEAR EARTH PENETRATOR

Senator FEINSTEIN. Thank you.

Now, the second I-can't-believe-for-the-life-of-me question. And this is—

Senator DOMENICI. Is it "believe it or not?"

Senator FEINSTEIN [continuing]. This is the big one. This is one that confounds me, because the Ambassador has been very upfront. And I had the quote from the March 2 House Armed Services Strategic Forces Subcommittee when you answered a question that Congresswoman Tauscher asked you about the bunker buster, and she asked, "I just want to know if there's any way a bunker buster of any size that we would drop will not produce a huge amount of radioactive debris." And you said, as you said here today, "No, there is not." And then the question was, "How deep could it go?" And the same thing, you said, "A couple of tens of meters, maybe—I mean, certainly. I really must apologize for my lack of precision if we, in the administration, have suggested that it was possible to have a bomb that penetrated far enough to trap all fallout. I don't believe that. I don't believe the laws of physics will ever let that be true."

And I believe that's a really correct statement, because I've talked to a number of nuclear physicists. They say the same thing. So my question is, why are we doing this? We won't spew radiation,

in terms of millions of cubic feet. I hope to God we won't. So why are we doing this?

Ambassador BROOKS. For the same reason, Senator, that we're doing any of the nuclear weapons programs. We face a very serious philosophical, moral, technical issue with nuclear weapons. And that is, for deterrents to work, we have to threaten to destroy something that is valuable to an adversary; notwithstanding the fact that the act of destroying that would be, in many ways, an unimaginable act. You and I have spent our whole life, and for much of that life, we've faced off against the Soviet Union at a time when at least I thought we might really go to war with those guys, and we deterred an attack on the United States by the notion of doing something back that would cause huge devastation.

May I, ma'am? Because I'm actually going somewhere; it just doesn't look that way.

Senator FEINSTEIN. Okay. I want to do this.

Ambassador BROOKS. The concern that we have now is that the kind of what I call "generic dictator," because I don't want to get arguing about any specific country, but if you look at generic dictators that we have dealt with recently, you will find they don't care about their people. They care about their power, and they care about their weapons, and they tend to put those things in places they don't think we can get to. And I don't believe that it is in our interest for a dictator to believe that there's nothing we could do. What we would do, who knows? That's the argument that says one might want a future President to have the option of such a weapon. All we're trying to do now is decide whether he can have it if he wants it, by figuring out if it's technically feasible.

Senator FEINSTEIN. I appreciate that. And I appreciate your directness. I really do.

Where I have a hard time with this answer is reading the Nuclear Posture Review and seeing the position that's taken in that review. Whereas, we all know we've never had a no-first-use policy, this review says that there are certain instances and certain countries against we would countenance a first use of nuclear weapons. All of those countries, the seven that are mentioned, know that. So, what are they going to do, sit back while we develop this, or are they going to go out and develop something even more, or at least as much? And this is where, when we have adequate conventional weapons, highly sophisticated conventional weapons, and, where combined with intelligence on air holes and exits and entries and those kinds of things, can be just as effective, I don't know why we want to risk the escalation, which, to me, seems to overwhelm the argument of deterrence.

ROBUST NUCLEAR EARTH PENETRATOR

Ambassador BROOKS. Yes, ma'am. And the answer is, in my view, in the premise you make. You make the premise that we can adequately hold these targets at risk through conventional means, that we have the conventional capability and the precision intelligence. And if that were true, I don't know why anybody would want to develop a nuclear capability, either. The point is that I think the actual ability to do this conventionally is not quite as good—and I'm getting in areas that, (a) are not my formal respon-

sibility, and, (b) shouldn't be discussed in an open hearing. But let me just say, for the sake of argument, if you believed that we might not have that capability, then you might want to at least think about, well, if the choice is nothing or a threat—or threatening an individual with nuclear weapons, which enhances deterrence? You correctly point out that countries are aware of what we might do. As long as we can't do things, then they don't have to worry about what a future President would do.

I believe, and there is a formal requirement from the Department of Defense, that we need to be able to threaten, militarily, hardened and deeply buried targets. Everybody that I know would much rather do that conventionally. And if your analysis that our intelligence and our conventional capabilities are right, then, (a) it doesn't matter whether you fund the study or not, because we'll certainly never go on with it, because it would make no sense. All I'm asking you to think through is, if it turns out that you're wrong, which is better, to accept the risks that you correctly describe by having a capability, or to accept the risks that I've described of having something that's a sanctuary beyond the reach of U.S. power?

I think that's a hard decision. I think we ought to have that discussion in the knowledge of whether we could do it with nuclear weapons if we wanted to. And that's why the administration proposes to spend some money to find out.

Senator FEINSTEIN. Yeah, and I appreciate your forbearance—yeah, I know, wrap it up—but one last thing and I'm done. We have an intellectual, an antiseptic discussion. And I go back, and I pull out my pictures of Nagasaki and Hiroshima. And I looked at what 15 kilotons can do. And I look at the wind patterns in various places, and I see what a 100-kiloton bunker buster will do. I mean, we would have to be mad to ever use it. And it—so, for me, if you leave this antiseptic world of going back and forth over a table, and you look at the real world of potential use, it's entirely different.

Ambassador BROOKS. It's very hard to see any time when any nuclear weapon you would want to use. It's, nonetheless, been, for all my lifetime, the view that the capability is an effective deterrent. And we've always faced that. The dichotomy you point out about this huge devastation, if we ever use them, compared to the deterrent benefit, that's true whether they can penetrate a few meters into the ground or not. And I think that's a hard question.

The only thing I would ask you to believe is, there's nobody on my end of the street who is unaware that nuclear use is, you know, quite literally, the most difficult and awesome decision a President would ever have to make. I don't think that we are going forward in an antiseptic way. We certainly don't intend to be, and I certainly don't think of it that way.

Senator FEINSTEIN. Thank you very much. Thank you, I appreciate your forbearance.

Thank you very much.

RETIREMENT OF DR. EVERET BECKNER

Senator DOMENICI. Thank you.

Now, let me ask—Dr. Beckner, this is your last day, and, you know, we would have, perhaps, asked you questions, but we chose

to do it another way. You still had something good to contribute. Do you want to say anything here, on your last day, about what's gone on or anything you'd like to?

Dr. BECKNER. Well, since you've given me the opportunity, I certainly wouldn't turn it down.

This has been a marvelous experience for me. It comes toward the end of my career, which extended back to 25-plus years at Sandia and then finally culminating in this position. It's the finest job I've had, mainly because of the importance to the country. It's not one that I was eager to leave, but it seemed to be time. And so, I now look forward to the retirement. But I'll think about it a lot in the future. So, I appreciate the opportunity I've had, and I want to be sure I'm on the record for that.

Senator DOMENICI. Well, you stay—you keep your suitcase packed, because there's probably a lot of things we're going to ask you to do that won't infringe upon the notion that you're in retirement.

Dr. BECKNER. Yeah, I'd be pleased to do that.

NUCLEAR WEAPONS RELEVANCE

Senator DOMENICI. We'll permit you to be constructive.

Senator, while you're still here, let me first say to you that I clearly understand the concern that you've expressed on all the issues. And I wish that we never had a nuclear weapon around, which I sense you do, also. And I even hear people, believe it or not, in commissions and council at the local levels, passing resolutions that we should get rid of our nuclear weapons. I hope, at least, when they say that, they mean "our," not just ours, but—

Senator FEINSTEIN. Everyone's.

Senator DOMENICI [continuing]. Everyone's. But I think they're—some of them aren't even saying that, just that they don't want them around America. But, you know, they were put upon us by ourselves, in a sense, and then we got in this mess that we had them and somebody else had them.

It is interesting that these devastating, terribly damaging weapons that nobody would fathom using kept peace for a long time. I mean, actually, I've seen some studies that there are probably less people killed in wars, during the 50 years that we were at bay, than any comparable 50 years in modern times. Interesting. Maybe it's not true, but I hear it's true.

Now it's getting worse; not because of that group of weapons laid over against ours, but because others have found it, right? Now it's—but, you know, I tend to operate off the premise, which apparently some people, even that built our bombs, didn't agree upon, because some of them wanted to share the fact that we had weapons, because they weren't quite sure we would be right all the time. You know that. Some of them excused—have written later and excused themselves from perhaps leaking secrets, that they weren't too sure we ought to have a monopoly. But let me say, I tend to believe our people, in government, when they tell us what they're going to do and what they're not going to do. And I don't have any such confidence that others are—even if they're our friends in the world—are going to tell us that about nuclear weapons and activi-

ties that they're undertaking. We could have a nice debate about that, but that's my feeling.

I also don't think that American people have to believe that. They, consequently think—they always tell me that I am absolutely wrong, we are building new weapons, and they know we are, "Every day, you're building a new bomb." I tell them, "I don't know where you get it. I only can believe what I've heard." But they believe it.

The truth of the matter is that I believe that none of these things that they're asking us to do in this field are done with the idea of enhancing or encouraging, in any way, our unilateral use of nuclear weapons, in any way, against another country, enemy or would-be enemy. I think they're all being developed because there is an apparent need so long as the world is what I've just described. And if it isn't that way, then we ought to—you know.

PITS

And I want to talk about pits for a minute, then I'll close. It is not correct to say that, "Here we are, rushing ahead to build pits." I mean, I have, for 10 years, been pressured by the Defense people that we're making fools of ourselves by not having any pit substitutes for our nuclear weapons; to the point where I was able to say, for 5 consecutive years, we're the only nuclear power that has no inventory of pits around. And we're trying to do it, right? And we finally ended up building them at Los Alamos, which is not supposed to be the place. You know, they're up there doing it. I've looked at it. And it sure as hell doesn't look like a manufacturing plant to me. And I know, Doctor, you've seen it. You've seen it, Mr. Ambassador. I mean, it's a pretty shaky looking place to be manufacturing pits. Safe, I acknowledge. And nobody's scared, so they must be safe. But—I'm not sure—but, sooner or later, we have to either decide that we are or we aren't. And sometime we've got to build a place.

And just think of this. Here's an administration, this one or the next one, that has to decide on a location and a building. I don't think you're saying they don't have to, ever. You're just questioning whether they're exaggerating, whether—but it's a terrific undertaking to site a building and decide upon it with the anti—and the way people can insist you jump through hoops before you do it, if you ever do it. And so, I don't think it's—I think the explanation that, while you're going through the impact evaluation, which takes forever and—go ahead and put in a number that makes sure that when Congress gets around to approving it, we're not going to have to do anything over again. Now, it may be too high, and it may be that before you go on even considering her concern and what I've said and you've said, you might want to cut it in half. You might want to go down to 150 or something, because, you know, I say, thank God if we ever got there, in terms of getting it done—I don't mean building them, but at least we'd be rid of the problem that we can't make a decision.

NUCLEAR WEAPONS

So that's how I see it. And I never want you to think that because I'm not going to agree with you on some of these things—

I do respect, greatly, you; but, not only that, you've worked hard on these issues. I just hope you know that what to you are believe-it-or-nots, to some of us are believable. And that's where we are on about five or six issues, and we'll debate them out thoroughly. And I think the committee—subcommittee will have a good time this year.

Senator FEINSTEIN. I think so, too.

Senator DOMENICI. We won't take so long to debate them. You can do that on the floor, but we'll get something done.

Senator FEINSTEIN. Thank you.

NAVAL REACTORS

Senator DOMENICI. Any of you—Admiral, do you have anything to say?

Admiral DONALD. No, sir. It's a pleasure to be here.

Senator DOMENICI. Are your boats at sea still safe?

Admiral DONALD. Yes, sir, absolutely.

Senator DOMENICI. Are they still landing in ports everywhere?

Admiral DONALD. Yes, sir. Yes, sir. We're welcome in any ports.

Senator DOMENICI. Except Australia.

Admiral DONALD. New Zealand.

Senator DOMENICI. New Zealand. That's an old-time arrangement, right?

Admiral DONALD. Yes, sir, it is.

Senator DOMENICI. Yeah. And when you go into ports in Europe, they don't move all their boats out of there—

Admiral DONALD. Absolutely not.

Senator DOMENICI [continuing]. Because they're scared of you, do they?

Admiral DONALD. No, sir, they do not.

Senator DOMENICI. That's amazing. You do that, but, over here, if we try to move a spent fuel rod, they want to clear out the countryside, right? And you've gone over there in water, where, if it leaked there, it would go everywhere. Anyway.

And, Mr. Baker, how about you. Do you have anything to comment?

ADDITIONAL COMMITTEE QUESTIONS

Mr. BAKER. No, I just want to thank you, Senator Domenici, over the years, for supporting our program. The threat has been reduced. It's getting tougher and tougher working with Russia, but, through your support, we have succeeded, and I want to thank you for it.

[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 PETE V. DOMENICI

PLUTONIUM DISPOSITION

Question. It appears that the liability proposal for plutonium disposition program continues to make slow progress. I was disappointed with the failure of the parties to reach an agreement before the Bratislava Summit between President Bush and President Putin.

As I noted in my statement, I fear opponents will seize on the opportunity to cut the budget request of \$336 million and the \$300 million in unobligated funds. I suspect our G-8 partners, who have committed \$800 million toward this project, are also watching U.S. progress very carefully.

Why are we alone among the major participants in the Global Partnership not to be able to reach a liability agreement with Russia? Can you assure the committee that the administration is committed to pushing this agreement through in the near future?

Answer. The United States has many agreements with the Russian Federation for which it is essential to have appropriate liability protection for the United States, its personnel, its contractors and their personnel. The effects on these agreements need to be taken into account as we proceed with resolving liability issues in the context of the plutonium disposition program. The administration remains strongly committed to achieving a satisfactory resolution of the liability issues in the near future, which will enable the United States and Russia to proceed with plans to dispose of surplus weapon-grade plutonium.

U.S./RUSSIAN WORKING GROUP ON NUCLEAR SECURITY—BRATISLAVA STATEMENT

Question. It seems to me that the only way we can succeed in completing the security upgrades in Russia in 2008, in building an effective security culture there, and in getting the Russians to sustain high security with their own resources after our help phases out, is to convince the Russians that this is an urgent threat to their own security. The same goes for similar work with other countries. What more can we do to build understanding of the urgency of the treat—in Russia, and in countries around the world? President Bush and President Putin announced a commitment to increase efforts on “Loose Nukes” during the President’s recent visit to Europe. What is the dimension of the new announcement, in terms of acceleration, re-ordering priorities?

Answer. At their meeting in Bratislava, President Bush and President Putin agreed to enhance cooperation between our two countries to better counter nuclear terrorism. Stressing that “while the security of nuclear facilities in the United States and Russia meet current requirements, these requirements must be constantly enhanced to counter the evolving terrorist threats.” As such, the President’s announced an expansion of cooperation on nuclear security and identified five areas for further cooperation: (1) Emergency Response; (2) Best Practices for security at nuclear facilities; (3) Security Culture; (4) Research Reactors; and (5) Nuclear Security.

The Bratislava statements have energized an evolving partnership in U.S.-Russia relations focused on the prevention of nuclear terrorism. While progress was being made in many of these areas prior to Bratislava, the process launched at Bratislava has focused increased attention on a number of critical U.S. nuclear security goals. Specifically as a result of Bratislava, we have expanded dialogue into new potential areas of cooperation: emergency response, best practices, and security culture, and have established concrete milestones for targeted areas of ongoing cooperation: including the conversion of research reactors to low enriched uranium fuel, the repatriation of both spent and fresh high enriched uranium fuel back to Russia and the United States, and completing joint action plans for nuclear site security upgrades at Rosatom and Ministry of Defense facilities.

Question. What are the key things we need to do to follow up on the Bratislava summit?

Answer. To continue the momentum achieved by Bratislava, the United States and Russia will need to follow through on continued implementation and established milestones for repatriation of fresh and spent highly-enriched uranium (HEU) fuel, site security upgrades at Russian nuclear facilities, and conversion of Russian and U.S.-supplied research reactors in third countries currently using HEU fuel. The United States and Russia have also agreed to a number of joint workshops and exercises planned for Fall 2005, in best practices, security culture, and emergency management. As emergency response cooperation expands from traditional consequence management cooperation to prevention of nuclear terrorism, the United States and Russia will need to consider a new intergovernmental agreement on Emergency Response.

RUSSIAN SECURITY SUSTAINABILITY

Question. As you complete upgrades at more and more sites, the sustainability work becomes ever more important, and presumably will become an increasing share of the effort. Why does the budget request reduce funds to support sustainability by \$11 million?

Answer. Sustainability will indeed increasingly consume a larger portion of the budget for each of our nuclear security programs. The budget request reduction was a result of the National Infrastructure and Sustainability program's accelerated procurement of 10 new railcars for the Rosatom Weapons Complex in fiscal year 2005. The railcars will enable Rosatom to securely move nuclear material between sites. However, the budget request for the sustainability portion of all other nuclear security activities was not reduced.

Question. The Russians have done very little to reduce the number of sites with nuclear weapons and materials. It seems to me if [we] want high security there at an affordable price, in a way they can sustain, we have to be guarding a smaller number of places. What can we do to convince them to consolidate?

Answer. DOE/NNSA has engaged Rosatom officials on the importance of consolidation on numerous occasions and the Material Consolidation and Conversion Project is a vehicle whereby DOE/NNSA can support the consolidation of HEU to fewer sites. The joint DOE-Rosatom MCC Working Group provides a forum for continuing this engagement. It is necessary to consider financial incentives and other assistance for Rosatom and the nuclear sites that offset the impact of removing material from operational sites.

U.N. RESOLUTION 1540

Question. I was very pleased by the administration's success in pushing through U.N. Security Council Resolution 1540, which legally obligates every U.N. member country to put in place criminal laws banning any WMD activities with terrorists, effective export controls and border controls, and effective security and accounting for WMD stockpiles, including nuclear materials. I think this is a key tool to prevent future A.Q. Khan networks, and to keep nuclear bomb materials out of terrorist hands. But I've seen surprisingly little follow-through on implementing this resolution so far. Our export control support programs, for example, were working with 30–40 targeted countries before the resolution and they're still working with 30–40 targeted countries now—but under the resolution there are 191 countries that have a legal requirement to put good export controls in place, and probably well over 100 of them that are going to need help to do so. What role does the Department of Energy play in supporting the enforcement of these controls and in monitoring compliance?

Answer. Alongside the Department of State's Export Control and Related Border Security (EXBS) Program, DOE's International Nonproliferation Export Control Program (INECP) supports export control assistance overseas. Through this program, INECP serves to meet pressing export control system improvement requirements as outlined in U.N. Security Council Resolution 1540 and the President's nonproliferation policy in the 30–40 countries it currently engages. INECP uses national laboratory specialists to train foreign technical counterparts in the methods required to "staff" their own national export control systems, and thus supports elements necessary for effective national export control systems.

Specifically, INECP's training enables foreign technical specialists to:

- Conduct analyses of items proposed for export to prevent the diversion of WMD-related commodities to State proliferators or terrorist organizations;
- Provide training in high risk property management and internal compliance to their nuclear and dual-use industries that help industry officials understand the proliferation threat posed by legitimate technologies; and,
- Adapt INECP-modeled curricula to national customs training academy needs. This "Commodity Identification Training" is designed to familiarize frontline customs officers with the visually distinctive aspects of dual-use commodities needed to manufacture WMD, so that they can seek additional advice when necessary from their own national technical experts.

Question. What more should be done to prevent the proliferation of nuclear material, scientific expertise and equipment?

Answer. DOE's nonproliferation programs focus on these core aspects of the proliferation threat. Our programs cover a wide range of efforts from securing nuclear material at the source, to increasing overseas border security, to implementing and monitoring export controls, to disposing of fissile material and to scientific engagement of former weapons scientists. The administration continues to make these programs a top priority and the continued support of Congress for our multifaceted efforts would be greatly appreciated as we work as quickly as possible to reduce the threat posed by nuclear proliferation.

DOE RELATIONSHIP WITH HOMELAND SECURITY

Question. The Department is providing valuable technological expertise in its laboratories to the missions of Homeland Security. Can you provide for the committee the contributions that have been made thus far by the laboratories to the Department of Homeland Security, by each laboratory or other entity?

Answer. Over the past 2½ years, the National Nuclear Security Administration (NNSA) and the other elements of the Department have worked with the Department of Homeland Security (DHS) to identify and provide critically needed technology, equipment, and expertise. We have been engaged in more than 233 programs and projects across the complex that were supported by more than \$582.9 million from DHS since its inception.

NNSA and its Laboratories have made significant contributions to the Department of Homeland Security (DHS). For instance, the core DHS Science and Technology (S&T) program, including the biological research program, started as a transfer of programs, funds and personnel from the NNSA Office of Nonproliferation Research and Engineering. Further, DHS and DOE have actively used a Calendar Year 2003 Memorandum of Agreement (MOA) to provide DHS direct access to the DOE and NNSA laboratories. This interaction has included providing expert technical staff from the national laboratories to staff key positions within the DHS S&T Undersecretariate, to a large number of DHS-funded technology programs and projects at the national laboratories, to an active programmatic engagement between offices in NNSA and DHS.

I am enclosing for the record, a summary of the number of projects, and associated costs, for the efforts at NNSA sites. While most of these efforts are on-going, the summary also lists some of the significant NNSA accomplishments and deliverables that have contributed to meeting the DHS mission.

Attachment.—DOE Relationship with Homeland Security

Sandia National Laboratories (SNL)

Programs/Projects.—74.

Funding.—\$104.9 million.

*Contributions: Radiological and Nuclear Countermeasures.—*Sensor for Measurement and Analysis of Radiation Transients (SMART) technology uses sodium iodide detectors and Sandia developed software to distinguish between various naturally occurring isotopes and special nuclear material.

Sandia National Laboratories was responsible for the maritime venue at the RNC surge deployment of the DHS CounterMeasures Test Beds as well as providing staff and redeploying equipment to other venues such as bridges, tunnels and commuter rail.

The Sandia analysis team has responded to rapid turnaround requests during national Orange Alerts and provided specific information to local, State, and Federal law enforcement on the deployment and use of radiation detectors.

*Infrastructure Protection Program.—*Sandia's National Infrastructure Simulation & Analysis Center (NISAC) and Critical Infrastructure Protection/Decision Support System (CIP/DSS) Program have developed specific skill sets and capabilities requested by DHS to support infrastructure protection requirements issued by the DHS directorates.

*Chem/Bio Countermeasures Program.—*SNL is developing fully self-contained, portable, hand-held chemical analysis systems incorporating "lab on a chip" technologies. The micro-ChemLab systems utilize micro fabricated substrates to provide sensitive devices with fast response times in a low power, compact package.

A BioBriefcase project is being undertaken as a joint collaboration between Sandia and Lawrence Livermore National Laboratories for the DHS. This project calls for a broad-spectrum bioagent detector that is briefcase-sized and features dramatically reduced reagent consumption, improved sensitivity and rapid response time.

Under the Transit Facility Protection effort, a chemical sensor test bed and emergency response plan developed by Sandia and Argonne National Laboratory in 1997 to demonstrate an early warning system at the Washington, DC Metro recently went online as part of the subway's ongoing emergency preparedness operations.

Chemical detectors and prototype biological detectors have been fielded at a major U.S. airport as components of a future integrated monitoring system.

*Decontamination and Restoration.—*A Domestic Demonstration and Application Program (DDAP) begun in 2003, in collaboration with Lawrence Livermore National Laboratory, is intended to create an optimal model for restoring a vulnerable facility, such as an airport, after a biological agent attack. The envisioned model is known as BROOM for Building Restoration Operations Optimization Model. The researchers are partnering in this effort with San Francisco Bay Area airports.

They developed a single decontamination foam that has rendered all typical chemical and biological agents harmless. It was used to help eliminate anthrax in the Hart, Dirksen, and Ford buildings on Capitol Hill, and at contaminated sites in New York and in the Postal Service.

Explosives Detection Technology.—Sandia has developed a preconcentrator for explosives detectors that is 1,000 times more sensitive, 200 times smaller, 13 times less costly, and 4 times faster than previous technologies.

Operation Safe Commerce.—They support the Ports of Los Angeles and Long Beach as part of the DHS Operation Safe Commerce Program.

Los Alamos National Laboratory (LANL)

Programs/Projects.—85.

Funding.—\$109.3 million.

Contributions: Nuclear and Radiological Threat Reduction.—Los Alamos has played a key role in testing radiation detection portal monitors, installing radiation detection equipment in the NYC test beds, in testing and improving equipment used to identify the radiation source material, and advancing our capabilities to actively interrogate containers that might contain threat materials or devices.

Los Alamos also plays a key role in designing systems of radiation detectors and in assessing the performance of such systems.

DHS funds preparations for responding to terrorist attacks, including a forensics and attribution program and an effort focused on providing first responders with a “playbook” detailing the appropriate scientifically correct response to a dirty bomb attack, and LANL plays a major role in both areas.

Chemical and Biological Threat Reduction.—The established projects from DOE’s Chemical and Biological National Security Program (CBNP–NP–20) provided DHS’s early successes in applied research and operational systems. Foremost among these was the project that became the BioWatch system that is now a 24/7 operational environmental surveillance system for biotreats in tens of cities.

Under DHS, LANL in partnership with EPA and CDC, quickly prototyped and implemented a national surveillance system by maturing the previous BASIS system. Los Alamos provided the system analysis of optimization, the sample management system, and tools to support local and Federal agencies in relocating and optimizing sensor placement.

For bioforensics efforts they provided unique analysis of biotreat agents from national and international incidences.

LANL performed genomic sequencing of pathogens that supported the development of new detection systems and bioforensics and established environmental microbial backgrounds that increase reliability of environmental surveillance systems.

They developed and demonstrated a bio-risk assessment methodology to guide the Nation’s investment in biotreat reduction, both for intentional and naturally occurring threat agents.

Infrastructure, Threat and Risk Analysis.—LANL integrates programs in threat analysis, vulnerability assessments, and consequence analysis to provide a risk-informed decision making capability to senior level officials in the DHS, as well as other U.S. government officials. The Critical Infrastructure Decision Support System has been used to model all 17 infrastructures/key assets and their critical interdependencies for the first time.

The National Infrastructure Simulation and Analysis Center (NISAC) has performed critical infrastructure asset identification and ranking for major metropolitan areas of Portland, Houston, Chicago and Los Angeles.

The All-WMD Terrorist Threat Capability Assessment project has produced assessments of Tier 0 and 1 groups for the Intelligence Community including the interests and capabilities of these groups for attacking infrastructures using WMD.

Lawrence Livermore National Laboratory (LLNL)

Programs/Projects.—50.

Funding.—\$264 million.

Contributions: Assessments and System Integration.—LLNL worked with the DHS since its inception to develop cutting-edge technologies in order to make America safer. LLNL’s greatest contribution to this effort has been its ability to integrate threat-informed risk assessments into systems definition which identifies where research and development can most effectively improve operational capabilities and deploy them.

Biodefense.—They developed new assays for improved bioagent detection, the creation of improved biodetection techniques and the deployment of these techniques into operational capabilities (BioWatch) and created the Biodefense Knowledge Center (BKC).

Radiation Detection.—LLNL is also developing new detection technologies and supporting the creation of national standards on these (and existing) technologies, while working with operational entities (Port Authority of New York and New Jersey) on the integration of technology into mission critical activities.

Forensics.—LLNL has always provided its singular expertise regarding nuclear incidents and is continuing to work with the domestic and international community (in coordination with other Federal agencies, including DHS) to improve the methods and protocols of nuclear forensics and attribution.

Their Forensic Science Center has been assisting the law enforcement community in analyzing forensic samples of interest. DHS, in coordination with the FBI, is leveraging this capability by establishing nationally available contaminated evidence receipt facilities at NNSA sites (including LLNL) because of the Laboratory's special expertise with WMD materials, international accreditation and long standing relationship with the law enforcement community.

Intelligence Support.—LLNL provided scientific and technical expertise for the analysis of all source intelligence information, primarily regarding the foreign nuclear threat. They have expanded their analytic capabilities to all threats and are a key part of DHS's intelligence team. Part of this expansion has been the development of advanced knowledge management tools, which have been further leveraged by DHS into the ADVISE architecture.

Nevada Test Site (NTS)

Programs/Projects.—11.

Funding.—\$98.5 million.

Contributions: WMD Training.—Over 24 thousand students have been trained to date. Training is being provided at the Nevada Test Site and across the United States and territories in Weapons of Mass Destruction radiological/nuclear response. Training covers the spectrum from the All-Hazards Awareness level up through scenario-based, hot-zone, hands-on Hazardous Material Technician level.

Radiological/Nuclear Test and Evaluation Complex.—This facility is currently under construction and scheduled to be operational in the fall of 2006. DHS has identified a critical need to develop a facility to test and evaluate sensors and detection systems for the detection of the clandestine movement of radiological materials across our Nation's borders. When complete, this DHS-funded Nuclear Hazard Category 2 facility will have the capability to test prototype detectors in simulated real-world conditions with a variety of radionuclides including Special Nuclear Materials.

Savannah River National Laboratory (SRNL)

Programs/Projects.—13.

Funding.—\$6.2 million.

Contributions: Forensics and Attribution.—SRNL developed analytical capabilities to more quickly and accurately determine the source of origin for captured nuclear materials. New equipment and techniques are being developed along with cataloging existing source data.

They are modifying existing facilities to expand our capabilities for handling and analyzing forensic evidence contaminated with nuclear materials.

Training.—Training for U.S. Coast Guard personnel on radiation detection general search techniques that includes training in the general orientation and USCG rad detection equipment operations is being provided.

SRNL is also providing training for Customs and Border Patrol personnel on radiation detection general search techniques in support of counter-smuggling efforts.

Test and Evaluation.—They have conducted testing and evaluation of Commercial Off-The-Shelf (COTS) radiation detection equipment in a maritime environment for the U.S. Coast Guard to support their selection process for purchasing.

The laboratory tested and evaluated radiation detection hardware in conjunction with Sandia National Lab at the DHS Test Bed at the Port of New York/New Jersey. COTS portal monitors were installed and tested in a marine port environment.

All of the laboratories have provided specialized expertise in various technologies as needed by the Department of Homeland Security. This level of support has been made available since the inception of the DHS.

Besides the National Nuclear Security Administration (NNSA), other offices in the Department of Energy (DOE) work closely with the Department of Homeland Security (DHS) to ensure DHS can use the special capabilities and expertise of the DOE laboratories to support DHS mission activities. DOE and DHS have signed a Memorandum of Agreement for this purpose and DOE has developed a streamlined reimbursable process for allowing DHS access to the DOE laboratories. DOE also provides an annual report to Congress on the homeland security related activities conducted by the DOE laboratories and facilities which includes DHS funded work.

I understand the Office of Science (SC) laboratories continue to conduct research and development activities that have the potential to provide new technologies for homeland security applications, as well as broaden the science base in areas of interest to DHS. These activities are primarily funded by DHS, but can also be supported by other sponsors of the laboratories. In fiscal year 2005, the SC laboratories are expected to receive approximately \$230 million directly from DHS for a wide variety of research and development efforts. Below are a few specific examples of the contributions made thus far to DHS by the SC laboratories.

Argonne National Laboratory, working with several other DOE laboratories, has developed the PROTECT program which provides an early warning crisis management system aimed at mitigating the impacts of chemical attacks on critical infrastructure such as high-threat subway systems, intermodal transportation facilities, large buildings, and airports. The system employs chemical detectors supported with video verification of patron distress to identify actual attacks from detector false alarms. The system also includes an advanced command and control system that combines detector, video, train, and facility ventilation data, and produces output for situation awareness for facility managers and responders. The PROTECT system is now being used in Washington, DC; New York, NY; and Boston, MA. In each case, the system is run by facility managers, and maintenance costs are paid for by the facilities themselves. The system is expected to be deployed in other major cities across the country.

Brookhaven National Laboratory has developed and constructed a "test-bed" facility, called the Radiation Detector Testing and Evaluation Facility (RADTEC), for assembling, operating, and testing commercial and government "off-the-shelf" technologies targeted for various homeland security applications, providing unbiased baseline data for comparison purposes. RADTEC includes a secure indoor facility, allowing equipment to be assembled and tested in a protected environment before being placed in a nearby outdoor test environment. The outdoor facility consists of an isolated stretch of road, allowing the appropriate security and health and safety protocols needed for testing with radioactive sources of national security concern. The facility is expected to become an important resource for local, county, State, and Federal officials, allowing researchers to define the strengths and limitations of various detectors, providing a quantitative and qualitative method for comparison. This comparison is necessary to provide the most comprehensive security screening deployment for the busy ports and access points in the New York metropolitan area.

Oak Ridge National Laboratory (ORNL) and Pacific Northwest National Laboratory (PNNL) have been chosen to help facilitate the transition of innovative technologies and organizational concepts to regional, State, and local jurisdictions under the Regional Technology Integration initiative. The initiative will serve as the principal mechanism for aligning science and technology assessments and expertise with the real needs of first responders. The program recognizes the real and important variables of the environment of individual communities, including population, leadership structure, geography and physical layout, level of threat, and available resources. It is expected to be a building block on which cities can improve emergency response efforts by taking advantage of what the Nation has to offer in terms of scientific and technological advances and learning from others' experiences.

Oak Ridge National Laboratory has also developed a transportable radiation portal monitoring system (TRMS). The system consists of a two-detector, commercially available vehicle monitor that detects gamma and neutron radiation. Each detector is mounted on a custom designed, commercially manufactured trailer that can operate as a single unit or a dual-sided unit. The system was developed as a result of the implementation of a gamma-only system designed and built for use at ORNL. This initial system was designed to detect increases in measured gamma radiation levels as vehicles containing scrap and waste passed through the detection area. The advantages of a radiation detection system that is easy to setup, operate, then breakdown indicated that this technique may be valuable for homeland security applications. The TRMS was provided to the Port Authority of New York/New Jersey test bed where it was deployed for use. Field observations were made which resulted in an action plan to revise the design making the unit more roadworthy. During the deployment, the radiological performance was excellent and the ability to setup the system quickly was seen as a great advantage and to be very desirable by the user community.

Pacific Northwest National Laboratory is improving the understanding of how contaminants disperse in an urban environment in the event of a terrorist attack. PNNL and other partners are releasing a safe inert tracer gas into downtown Manhattan and then measuring wind patterns using portable wind-sampling instruments placed around the area. Data collected from the study will help improve computer model simulations of the transport and deposition of urban atmospheric con-

taminants. It also will be shared with the surrounding emergency response community to enable officials to factor the results into response techniques. The data collected during the New York campaign will improve the reliability of computer models. The models are important for local and Federal officials to train and prepare in the event of an airborne disaster. The ability to track dispersal of contaminants through the air in the metropolitan New York area is a top priority for local and national emergency management officials.

Additionally the Idaho National Laboratory (INL), managed by the DOE Office of Nuclear Energy, Science and Technology (NE), performs work for the Department of Homeland Security (DHS) in several areas including improving cyber security technologies for Supervisory Control and Data Acquisition (SCADA) and Process Control Systems, trace explosives detection and testing, nuclear materials detection, and biological countermeasures.

The INL's Control Systems Security Center is a multi-year program to perform risk and vulnerability assessments, and develop tools and solutions against known cyber vulnerabilities, as well as increasing industry's awareness of cyber security for control systems. The program works cooperatively with the Department's National SCADA Test Bed allowing industry and vendors to place their equipment in a specialized facility where it is analyzed by cyber and control systems researchers. INL's independent infrastructure systems allows SCADA and control systems testing to be performed in a more realistic environment than computer simulation. INL also performs SCADA and communications modeling work for the National Communications System, assists utilities by conducting site assist visits, and provides support to the U.S. Computer Emergency Readiness Team.

INL has also developed an active interrogation system for the detection of shielded nuclear materials smuggled in large commercial cargo containers, teaming with a commercial company to adapt this system for deployment at the Nation's ports of entry. The system can detect the presence of weapons grade nuclear material and can differentiate between highly enriched uranium, depleted uranium, or thorium.

Laboratory scientists are conducting research and performing testing on trace explosives detection systems for DHS and other Federal agencies. They perform explosive forensic analysis, design improved sensors, and develop detection testing protocols and standards.

Finally, INL performs work in chemical and biological countermeasures by developing and validating a suite of DNA signatures for rapid detection of certain biological agents and have developed a quick, safe, accurate method to detect this agent in the field.

Question. It is my understanding that DHS will establish a Domestic Nuclear Detection Office (DNDO) with primary responsibilities to improve the deployment of nuclear detectors here in the United States. DHS claims they will work to coordinate Federal efforts in this area and the development of new detection technology. It is my understanding that the Department has agreed to provide staffing for this Office. What role will DOE play in this partnership and which agency will pay the staffing costs for the DOE employees? NNSA's role and strategic objectives relative to nuclear proliferation are well understood, but what do you see as NNSA's role relative to the proliferation of other Weapons of Mass Destruction, particularly biological weapons?

Answer. The Domestic Nuclear Detection Office (DNDO) was established to bolster the ability to detect and interdict illicit nuclear and radiological materials that threaten the homeland. As the Nation's technical resource for nuclear and radiological matters, DOE is committed to working collaboratively with the DNDO in the use and development of technologies and resources. At the same time, DOE retains the responsibility for managing those programs that support DOE missions.

With the establishment of the DNDO, DOE has agreed to provide staffing in key areas on a rotational basis to ensure there is continuity and connectivity between the Departments for this key Presidential Initiative. For fiscal year 2006, NNSA will provide up to 11 staff members to provide connectivity across research and development, operational and procurement related interactions of the Departments. DHS has stated their intention to request fiscal year 2007 funding to reimburse interagency rotational assignments to DNDO.

In terms of the NNSA role relative to the proliferation of other Weapons of Mass Destruction (WMD), particularly biological weapons, NNSA's mission statement includes all WMD as global areas of emphasis. While, noting that NNSA's primary focus is on the nuclear aspect of WMD, there is considerable talent and research that has been, and can be, brought to bear on biological weapons R&D, especially in a nonproliferation context. The NNSA Laboratories are well situated to provide leading edge R&D to further the capability for the Nation to detect, characterize and locate biological threats to the Nation. This capability is, and should be, integrated

with other ongoing biological detection R&D work in DHS, the Defense Department and other Federal agencies.

TA-18

Question. Ambassador Brooks, Secretary Abraham made a decision to begin moving the Category 1 Special Nuclear Material out of TA-18 at Los Alamos to the Nevada Test Site for security purposes. Unfortunately the NNSA never budgeted for this activity in fiscal year 2005, nor was it requested in the Emergency Supplemental Appropriations bill. Instead you have decided to “tax” specific RTBF projects to pay of this activity. New Mexico projects would lose \$10 million as a result. Congress did not prioritize funding for these RTBF projects so you could pay for your unbudgeted priorities. Senator Reid and I have included a provision within the Senate Supplemental that will provide \$26 million for the TA-18 move. Are there any other emergency items of which you are aware but that have not been requested—such as \$30 million needed for security upgrades in Nevada? If so what are they?

Answer. There are no other emergency items, but we are in the process of submitting a reprogramming of \$17.4 million for Safeguards and Security to support emergent requirements associated with the implementation of the May 2003 Design Basis Threat.

Question. Why did you decide to cut Congressional priorities to fund the TA-18 project instead of requesting funding as part of the Emergency Supplemental?

Answer. The decision to begin moving the Category I Special Nuclear Material out of TA-18 at Los Alamos National Laboratory to the Nevada Test Site for security purposes (National Nuclear Security Administration (NNSA) Press Release NA-04-10, dated March 31, 2004) occurred after formulation of the fiscal year 2005 Budget and therefore was not included. Nevertheless, as our understanding of the security risk evolved, so did NNSA’s sense of urgency to move these materials as soon as possible. Funding the early move of materials fits within the definition of the Readiness in Technical Base and Facilities account and was viewed as the most expeditious means to address this security concern.

NUCLEAR WEAPONS COMPLEX INFRASTRUCTURE STUDY

Question. Ambassador Brooks, I understand that the Department has convened a team under the Secretary of Energy Advisory Board to visit each of the NNSA facilities, meet with lab personnel and Department of Defense officials. This group is expected to make a proposal in May regarding the future size and scope of the NNSA weapons complex.

I have been informed by constituents who spoke with Ed Wilmot, the DoE site manager at Los Alamos, who was quoted as saying that Los Alamos will lose 25 percent of their capability as result of this proposal. That is a frightening thought, and I would appreciate it if you could set the record straight since you have been briefed on this study. Do you support a 25 percent reduction of capability at Los Alamos?

Answer. I do not foresee any circumstances that would lead to a 25 percent reduction of capability at Los Alamos.

Question. Was the statement made by Ed Wilmot accurate, and will this study propose such a drastic reduction in capability at Los Alamos?

Answer. Unfortunately, the information you received regarding Ed Wilmot’s comments at a session of the Los Alamos Medical Center Board of Director’s meeting were taken out of context by someone who was not present at the meeting. The fact is Mr. Wilmot used a 25 percent reduction as an arbitrary number during a strategy planning session of the Board that was unrelated to the ongoing Complex Study required by Congress. I should note that during this planning session a wide spectrum of other scenarios were discussed including significant growth at Los Alamos.

The Nuclear Weapons Complex Infrastructure Study task force is an independent study on behalf of the Secretary of Energy’s Advisory Board. The study is advisory only and is now underway. The board has not published its recommendations and neither the Secretary of Energy nor I have made any decisions about the study.

FIVE-YEAR BUDGET OUTLOOK

Question. Ambassador Brooks, the fiscal year 2006 budget proposes a net reduction to the NNSA budget by \$500 million over the next 5 years as compared to fiscal year 2005. The budget proposes reducing Defense Programs by \$3 billion and the FIRP program is to be cut by \$750 million. I don’t believe that you will be able to support the vision you have laid out in your testimony before the Senate Armed Services Committee to maintain the existing stockpile while you restore the design

and production capability for a new weapon by 2015. Can you please explain where you intend to cut the \$3 billion and how you intend to support this new capability?

Answer. The reductions in the nuclear weapon stockpile from the Treaty of Moscow, and a changed approach to Stockpile Stewardship will enable NNSA to make a funding reduction of this magnitude and still support this mission. During the next 5 to 10 years, we gain the efficiencies of investments made in advanced computing and simulation. The large capital expenditures in the past 5 years associated with supercomputing, the National Ignition Facility, and restoring tritium production capability are already winding down. The recent steep growth in funding for Safeguards and Security will taper off as infrastructure and technology improvements are implemented.

The key planning parameters for our future new capabilities are embodied in the “responsive infrastructure” and “reliable replacement warhead” concepts. Both of these are designed to support the continuing stewardship of the Nation’s nuclear deterrent more efficiently and effectively, in terms of both products and facilities. Program implementation for these approaches is just beginning. The Nuclear Weapons Complex Infrastructure Study requested by the Congress is expected to support and expand upon this new approach.

Question. How will you ensure that we meet our stockpile stewardship obligations if you continue to make deep cuts to the Science Campaign (–5 percent) the Engineering Campaign (–12 percent), Readiness (–16 percent) over the next several years?

Answer. A reduction in funding for a campaign does not necessarily indicate a lack of support or retreat from program obligations. Funding for these campaigns, and all NNSA programs, is a function of multi year planning to meet stockpile stewardship obligations and long term goals, not a “level of effort”. In the case of these and all campaigns, achievement of research objectives, completion of major construction projects, and future objectives all factor in to determine NNSA’s overall priorities and funding levels.

Question. In your testimony before the Senate Armed Services Committee you referred to a major change in the fiscal year 2007 budget. Can you please elaborate on that proposal?

Answer. We knew when we submitted the fiscal year 2006–2010 President’s Budget that we would likely rebalance the outyears for a number of our programs during our fiscal year 2007 PPBE process. That will take place this spring and summer in light of some “fact of life” changes for a few major programs, and in view of congressional direction we receive with the fiscal year 2006 actions.

The Nuclear Weapons Complex Infrastructure Study requested by the Congress is also expected later this spring. Although we do not expect that the study recommendations will have a major impact on the fiscal year 2007–2011 budget proposal, the fiscal year 2007 budget process will provide a forum for dialogue between the administration and the Congress that will set the path to a different, more efficient and less expensive approach to the nuclear weapons complex in the future.

NATIONAL IGNITION FACILITY (NIF)

Question. It appears that with constraints imposed by NIF construction, the budget for High Energy Density Physics research at Los Alamos and Livermore has been dropped to zero in fiscal year 2006 and fiscal year 2007 and Sandia’s budget for the operation of the “Z” machine has been drastically cut. How does this large cut in this science activity affect the viability of the NIF ignition plan and the long term health of this critical aspect of stockpile stewardship?

Answer. Over the next 5 to 10 years NNSA will need to make the nuclear weapon complex more agile and responsive and will have to respond to a number of weapon design challenges. To effectively support the stockpile, previously planned major advanced scientific capabilities, such as validated simulation tools, radiography, and NIF ignition experiments, must be put in place as soon as feasible. For this reason, the fiscal year 2006 submission reoriented the Inertial Confinement Fusion and High Yield Campaign towards the completion of NIF. Execution of the first ignition experiment in fiscal year 2010 appears credible, despite the reductions to the high energy density physics program. Near term experiments in support of the ignition campaign will be executed at OMEGA and Z. Clearly adjustments are being made and we are accepting greater, though manageable, programmatic risk.

OMEGA and Z are essential for near term work in high-energy-density weapon physics and the ignition campaign, and these facilities will be adequately supported in fiscal year 2006. With respect to Z, we have maintained a reasonable program at Z, including full funding for the Z-refurbishment project. Because of constrained budgets, we are planning to operate the Z Facility at 90 percent of the full single

shift rate through April 2006. At that time, the Z-Facility will be shut down for refurbishment. Overall, we will reduce the number of shots on Z by a modest amount while still keeping the Z-refurbishment project on schedule. The amount of experiments supported at OMEGA in fiscal year 2006 will also be slightly less than fiscal year 2005. In short, the NIF ignition plan, and this aspect of stockpile stewardship remains viable.

Question. The ICF budget for fiscal years 2006, 2007 and 2008 appears marginal, at best, to meet needs of the expected ignition campaign on NIF in 2010. No shots at all are expected on NIF in the years leading up to this campaign. With such total concentration on NIF construction, the research needed to build up to a credible program for utilization of the NIF to support the Stockpile cannot be done. On what basis does NNSA believe that they can maintain a robust stockpile stewardship effort in High Energy Density Physics prior to crucial experiments on NIF in light of this prioritization?

Answer. As discussed in the question above, experimental programs are being maintained at Z and OMEGA, in addition to supporting NIF construction. Funds and plans are in place for a high energy density physics program that is required to support current stockpile applications. Some of this support is captured in other campaigns and directed stockpile work. Full details will be made available as part of the fiscal year 2007 request.

Question. With reduction of science budgets at the NNSA labs, there is clear risk of atrophy of science expertise in high energy density physics. What steps is NNSA taking, and what additional steps should be taken, to develop science programs that can aid in the development of High Energy Density Physics experiments on the NIF and other NNSA facilities (such as the Omega laser and ZR at Sandia)?

Answer. The NNSA has aggressively rebalanced the High Energy Density Physics (HEDP) program and is accepting greater programmatic risk in response to budgetary pressures. Nevertheless, we have a viable program that maintains a sufficient level of scientific expertise in HEDP, and will obtain relevant data from HEDP facilities to support near-term stockpile stewardship deliverables.

SMALL BUSINESS CONTRACTING

Question. I understand that DOE is last among Federal agencies in terms of compliance with the small business contracting goals set by the administration. I also recognize this is a result of policy that prohibits the Department from counting small business sub contracts let by the M&O contractors.

Both Sandia and Los Alamos place at least 45 percent of their subcontracts with small business—well over the SBA required level of 23 percent. DOE wide, small business procurements make up 52 percent of all M&O subcontracts. Despite this strong track record, DOE is only scored for prime contracts (only 4 percent of primes go to small business).

To address this shortfall NNSA has initiated two efforts to improve its small business score. The first has been to sign contracts with Alaska Native Corporations. Since October 2004, the NNSA has signed \$500 million in contracts with ANCs.

The second initiative, known as the Tri-lab Initiative, would take \$100 million in procurements from each of the three NNSA labs and bundle them to be offered by either the Albuquerque Service Center or Headquarters. NNSA's decision to pull these contracts back to Headquarters is also likely to impact the labs through a reduction in LDRD funding and will reduce NNSA's mandated small business goals negotiated by each lab.

This program is ill conceived and poorly executed as the procurement targets have varied widely as have the goals and terms proposed by NNSA. Can you please explain why you have insisted that the NNSA proceed with this proposal despite strong objection by the labs and small businesses?

Answer. As a result of the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief, 2005, section 6022, NNSA has tabled the Tri-lab Initiative indefinitely pending the outcome of the joint study directed by the legislation. The expectation that NNSA can award 23 percent of the NNSA budget to small businesses when more than 80 percent of the departmental budget is obligated to Management and Operating contracts presents a real challenge. Nevertheless NNSA continues to strive for increases in the amount of prime contracting dollars awarded to the Small Business community, as we work to support Federal-wide goals.

Question. The GAO is currently reviewing DOE subcontracting rules for a report later this year, and I have proposed language to fix this matter. Would you agree to put off execution of the tri-lab bundling proposal until the GAO completes their work and submits its recommendations?

Answer. The GAO has completed its work on DOE oversight of small business subcontracting and the Department has begun the process of implementing these recommendations through the issuance of several documents and directives.

Additionally, as a result of the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief, 2005, section 6022, NNSA has tabled the Tri-lab Initiative indefinitely pending the outcome of the joint study directed by the legislation.

Question. The GAO is currently reviewing DOE subcontracting rules for a report later this year, and I have proposed language to fix this matter. Can you please guarantee that this proposal will not impact current small business contracts in New Mexico and not negatively impact the LDRD program at each of the labs this year and the following years?

Answer. Pending the findings from the joint study directed by the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief, 2005, section 6022, NNSA has halted action on the Tri-lab proposal. NNSA looks forward to working with the Small Business Administration in developing an appropriate methodology for measuring the achievement of the Department of Energy with respect to awarding contracts to small businesses.

ADVANCED SIMULATION COMPUTING

Question. Ambassador Brooks, NNSA is holding a significant funding reserve at Headquarters for the Advanced Simulation and Computing program and it is unclear how the money will be spent. I believe that we need to get this funding into the field. I also recognize that within the NNSA there is a debate regarding whether you should build computing capacity by purchasing existing technology to increase capacity quickly and cheaply or continue the current practice of buying expensive leadership-class machines. Do you have concerns that our weapons design computing needs are outstripping their access to computing capacity?

Answer. The funds identified in the fiscal year 2006 National Nuclear Security Administration (NNSA) budget request under Headquarters includes hardware and contract dollars that will be distributed to the laboratories at the beginning of the fiscal year. In the future, most of these funds will be distributed prior to the budget request submission and therefore the Headquarters numbers in future submissions should be significantly lower than the current one.

Currently, our computing needs do exceed our access to computing capacity. Sustained support for computing is essential to support national security. At NNSA and at the weapons Laboratories, we know that to address both current stockpile issues and emerging needs, computer systems that stretch the capabilities of the technology are required. Our current systems are oversubscribed, both in terms of capacity (high-volume, smaller-size) and capability (low-volume, largest-size). With the current generation of leadership-class machines, simulating the behavior of a system in the current stockpile with a full three-dimensional calculation is taking a year or more to complete—whereas a timely analysis should take less than a month. Further, the developing weapons' certification methodology, which includes compute-intensive sensitivity analysis, is driving a growing demand for capacity systems. Our current shortfall in computing is exacerbated by urgent situations that arise in the stockpile that displace other time-critical work. A case in point is a current Significant Finding Investigation that required us to supplant important work on the W76 Life Extension Program so that critical computations could be completed. Our continuing challenge is to reduce the time-to-solution of these problems while acquiring the most cost-effective systems that make it possible for weapons scientists and engineers to keep pace with the demands of the stockpile stewardship program.

Question. Is it possible to address capacity needs at a lower cost through multiple systems than buying a single cutting-edge machine?

Answer. We are addressing the capacity computing needs of the program by acquiring computer systems that are based on available, commodity products (such as processors, memories, and interconnection networks, and the Linux operating system). These systems can be acquired and deployed very rapidly to address a significant subset, but not all, of our problems. The Advanced Simulation and Computing program procured some early Linux-based systems in 2002 and found them to be effective for a significant fraction of our weapons simulations. We recognize that the weapons program can't make use of capability (now referred to as leadership-class) computers until it provides sufficient capacity systems to alleviate its oversubscription problems. However, Linux clusters cannot fulfill our most demanding capability needs, so the program will continue to rely on a balance of commodity clusters and cutting-edge machines for those applications that require them.

CYBER SECURITY

Question. The Integrated Cyber Security Initiative work to provision and secure NNSA systems has been moving along successfully with installations at several DOE Labs (most notably Sandia). Based upon this experience, should this infrastructure be promoted as “the” enterprise approach to secure and provision and authenticate all of DOE users? If so, why?

Answer. The Integrated Cyber Security Initiative is implementing an enterprise secure network for all sites in NNSA. The DOE Diskless Workstation Tiger team has recommended that the NNSA enterprise secure network be extended to include all DOE sites processing classified data. Because much of the work performed by the non-NNSA laboratories in DOE is unclassified it would be inappropriate to connect these laboratories to the NNSA enterprise secure network. NNSA laboratories and production facilities are evaluating the NNSA enterprise secure network architecture for possible deployment in their sensitive and unclassified computing environments.

Question. Right now DOE labs seem to operate with a multitude of approaches to secure messaging and have developed a standardized manner in which to ensure that important communications are provided with the necessary level of security. Although there is a Federal Bridge Certificate Authority (FBCA) PKI infrastructure that is being used by many across DOE to send secure messages, there are many instances where individuals send information (apparently using their own discretion) without using this infrastructure, clearly not in compliance with DOE policy. What efforts are being made to standardize DOE with a common secure messaging solution by offering PKI credentials to all DOE employees and contractors and ensure that solution is being utilized at all appropriate times?

Answer. The DOE and NNSA are currently working to develop the plans for implementing the Homeland Security Presidential Directive-12. This directive requires that all Federal employees and Federal contractors use a common, standard credential to access all government and government contractor information systems. A key element in the implementation of this directive is a Department-wide PKI infrastructure. Completion of the implementation of the directive, now mandated by the Office of Management and Budget for September 2006, will provide a common PKI infrastructure across all DOE and NNSA sites and enable the use of a common secure messaging solution.

Question. Sensitive data may reside within a database, on a computer or laptop, within an email or other communication, among other places. What procedures and system does the Department use to ensure that: (1) individuals accessing internal information are who they claim to be; (2) the system allows individuals to only view the material they are authorized to view and no more; and (3) ensures that “authorized” users are not deliberately or inadvertently able to share this information with unauthorized users? If no such program is in place, why is there not a program in place to ensure such safeguards in the storage, use, and communication of such data exists for the entire Department? Would such a program have prevented some, any, or all of the security lapses that we have seen in within the Department?

Answer. The Integrated Cyber Security Initiative is implementing hardware, software, and procedures that will ensure that only authorized users may access and share data with other authorized users. Authorization will be strictly based on management approval of the “need-to-know.” Deployment of this architecture into the NNSA unclassified and sensitive computing environments, coupled with the DOE implementation of HSPD-12 and FIPS 201, will extend these controls to cover all NNSA data. These controls will reduce the number of incidents involving inadvertent disclosure of information through inappropriate email and file transfers. However, these controls cannot address the incidents where users mis-handle data outside the computing environment, such as misplacing classified removable electronic media (CREM).

Senator DOMENICI. I do want to close by saying, Senator, that—Feinstein—there is another thing about our nuclear weapons, versus Russia, which I think we are being very honest about. And they’re not being dishonest. I mean, they may be, but I don’t know about it. But they have different nuclear weapons.

Senator FEINSTEIN. Yes, I know.

CONCLUSION OF HEARINGS

Senator DOMENICI. You know that. And they replace them regularly, and that's not considered new ones. They build them all the time, because they never built them to last very long. So, here we are, every time we move a—we wiggle a little pinky, somebody's running around saying—not you—but that we're building a new weapon, when there is a constant new set of weapons that you big scientists know they're going to have that work right. They don't have the same situation we do. They may have some other problems—manpower, all the rest of it.

With that, we're in recess.

[Whereupon, at 3:40 p.m., Thursday, April 14, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]