DEPARTMENT OF ENERGY'S FISCAL YEAR 2007 BUDGET PROPOSAL

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

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CONTENTS

Page

Testimony of:

Bodman, Hon. Samuel W., Secretary, U.S. Department of Energy 34

Additional material submitted for the record:

Bodman, Hon. Samuel W., Secretary, U.S. Department of Energy, response for the record..... 106

DEPARTMENT OF ENERGY'S FISCAL YEAR 2007 BUDGET PROPOSAL

THURSDAY, MARCH 9, 2006

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The committee met, pursuant to notice, at 10:00 a.m., in Room 2123 of the Rayburn House Office Building, Hon. Joe Barton (chairman) presiding.

Members present: Representatives Hall, Upton, Stearns, Whitfield, Shimkus, Radanovich, Bass, Pitts, Terry, Ferguson, Otter, Sullivan, Murphy, Burgess, Blackburn, Dingell, Markey, Rush, Stupak, Engel, Wynn, Green, Strickland, Capps, Doyle, Allen, Schakowsky, Solis, Inslee, and Barton.

Staff present: Mark Menezes, Chief Counsel for Energy and Environment; Annie Caputo, Professional Staff Member; Maryam Sabbaghian, Counsel; Kurt Bilas; Counsel, Margaret Caravelli, Counsel; Elizabeth Stack, Policy Coordinator; Sue Sheridan, Minority Senior Counsel; Bruce Harris, Minorty Professional Staff Member; and Peter Kielty, Legislative Clerk.

CHAIRMAN BARTON. The hearing will come to order. We are waiting for Ranking Member Dingell and as soon as Mr. Dingell gets here, we will proceed, and he is on his way. But welcome, Mr. Secretary, we are glad to have you.

SECRETARY BODMAN. Delighted to be here, sir.

CHAIRMAN BARTON. In fact, I think I am going to go ahead and do my opening statement to help expedite time. I want to welcome you, Secretary Bodman, for the hearing on the Department of Energy's budget. We look forward to hearing from you. We also look forward to continuing to work with you on the energy issues that face the United States. The past year has seen some very notable achievements in the energy area, especially the passage of the Energy Policy Act of 2005. We are here to review the Department's Fiscal Year 2007 budget. The Department performs work that is critical to the jobs, health, safety, and security for all Americans and you, Mr. Secretary, lead that work.

I believe your Department's performance has improved over the last several years and particularly, the last year under your leadership. We would like to see this trend continue. As we have seen all too clearly in the past, working American families and the U.S. economy rely on secure, ample supplies of energy at prices they can afford to pay.

Hurricanes at home and even political storms in distant places can have a real impact on the daily lives of our people. Providing reliable energy means more jobs, more economic security, and more national security for us and our children.

Last year the Congress passed, and the President signed, the Energy Policy Act of 2005. Most of that legislation originated in this committee. I would like to thank you for your hard work on that same bill. It has placed new obligations on your Department. You have new work to do to accomplish energy efficiency, electric transmission and security, nuclear power, clean coal development, renewable energy, hydrogen and oil and gas, and multiple deadlines in the bill. Speaking of the deadlines in the bill, I think we need to commend the new chairman of the Federal Energy Regulatory Commission, Chairman Joe Kelliher, for his work in meeting those deadlines. FERC has met every deadline they are supposed to have met in the new bill. I wish I could say the same about the Department of Energy, but unfortunately I cannot.

The President has announced some new programs this year, such as the global nuclear energy partnership. He also has announced initiatives for renewable fuels, transportation, solar power, and American competitiveness in basic science. Managing and successfully meeting all the requirements of the recently passed Energy Policy Act and the President's new initiatives is an important challenge for your Department.

The President and I both strongly believe that nuclear power is necessary to meet our Nation's energy needs. The nuclear industry must begin to build new plants as soon as possible to meet the growing demand for electricity. I believe that your Department's ability to meet its obligation to build the Yucca Mountain Repository is linked directly to the industry's ability to build some of these new plants. I am very frustrated that the Department still has not filed a license application, which is almost four years overdue.

I want to commend you, Mr. Secretary, for demonstrating initiative by proposing the Global Nuclear Energy Partnership as a long-term concept to address nuclear waste disposal and international proliferation issues. I am concerned, though, that the scope of this program may be too broad and it may be premature. I would urge you not to allow the Global Nuclear Energy Partnership to divert focus and resources away from the near-term challenges that must be overcome to ensure the long-term viability of the industry, especially progress at Yucca Mountain.

Today, the President is going to host a meeting on energy with a bipartisan group of House members, some of whom are on this committee. Because of that, it is my understanding that you need to leave at approximately 1:00 p.m., or very shortly thereafter, to prepare

for that meeting. Mr. Dingell, myself, and several others are planning on going to that same meeting, so we are going to try to expedite this so that we can all attend the meeting with the President this afternoon. By prior agreement and prior discussions, today's opening statements, except for myself and Mr. Dingell, will be one minute each and then we will ask the Secretary questions for five minutes at a time.

Finally, I want to take this opportunity to commend our Chief Counsel for Energy and Environment, Mark Menezes, for the fine job that he has done the last several years for the committee. Next week is going to be his last week on the committee. He has decided to seek greener pastures and we are going to miss you. So good luck to you and we hope that we get to see you again. Mark is going to become a partner at Hunton and Williams, which is a law firm here in Washington, D.C.

With that, I want to recognize my Ranking Member, Mr. Dingell, for his opening statement.

[The prepared statement of Hon. Joe Barton follows:]

PREPARED STATEMENT OF THE HON. JOE BARTON, CHAIRMAN, COMMITTEE ON ENERGY AND COMMERCE

The hearing will come to order. I would like to welcome Secretary Bodman back to this Committee. We look forward to continuing to work with you, Mr. Secretary, on the many important energy issues facing the United States. The past year has seen some notable achievements, including the passage of the Energy Policy Act of 2005.

We are here this morning to review the FY 2007 budget request of the Department of Energy. The Department performs work that is critical to the jobs, health, safety, and security of all Americans, and the Secretary leads that work. The Department's performance has improved greatly over the last several years, and particularly over the last year under your leadership, Mr. Secretary. Keep up the good work -- we want to see that trend continue.

As we have seen all too clearly in the past year, working American families and the U.S. economy rely on secure, ample supplies of energy at prices they can afford to pay. Hurricanes at home and even political storms in distant places can have a real impact on the daily lives of our people. Providing reliable energy means more jobs, economic security, and national security for us and our children. That's a tall order, Mr. Secretary, and I look forward to hearing how you plan to fill it.

Last year, Congress passed and the President signed the Energy Policy Act of 2005. Thank you for your hard work on that bill. This legislation placed new obligations and responsibilities on the DOE. DOE has new work to accomplish on energy efficiency, electricity transmission and security, nuclear power, clean coal development, renewable energy, hydrogen, and oil and gas. There are multiple deadlines in this bill, and I want to commend Chairman Kelliher of the FERC for meeting those deadlines. I hope that DOE will strive to achieve the goals and deadlines in EPACT.

In addition, the President has announced new programs as part of the Global Nuclear Energy Partnership, and initiatives for renewable fuels for transportation, solar power, and American competitiveness and basic science. Managing and successfully meeting all of the requirements of the Energy Policy Act and the President's initiatives will be an enormous challenge for the Department.

The President and I both strongly believe that nuclear energy is necessary to meet our nation's energy needs. The industry must begin to build new plants as soon as possible to meet the growing demand for electricity. I believe that DOE's ability to meet its obligation to build the Yucca Mountain repository is linked to the industry's ability to build new plants. I am frustrated that DOE still has not yet filed a license application, which is almost 4 years overdue.

I commend you, Mr. Secretary, for demonstrating initiative by proposing the Global Nuclear Energy Partnership as a long-term concept to address nuclear waste disposal and international proliferation issues. However, I am concerned that the scope of this program may be overly broad and premature. I urge you not to allow GNEP to divert focus and resources away from the near-term challenges that must be overcome to ensure the long-term viability of the industry.

Today, the President will host a meeting on energy with a bipartisan group of House Members, some of whom are on this Committee. I note that Secretary Bodman will have to leave at 1pm, or very shortly thereafter, to prepare for that meeting. I assure you that neither the Secretary nor I selected the time of this meeting, and it is regrettable that our hearing will have to end at a fixed time.

Opening statements today will be 1 minute, except for Ranking Member Dingell and myself. When asking questions of the Secretary, I encourage all Members to stick to the five minutes they are allowed under the rules, or even to turn back some time so that as many Members may ask questions as possible.

I remind all Members of the opportunity to ask questions for the record following the hearing. I have asked the committee staff to help pull together those questions that come in quickly. Mr. Secretary, I ask you to please respond to questions as soon as you can, particularly from Members that don't get to ask questions today.

Finally, I want to give a word of thanks to a departing member of the committee staff. Mark Menezes, the majority's chief counsel for energy and the environment, will be leaving us next week. Mark is one of the staffers most responsible for the bipartisan success of last year's energy bill, and has been instrumental in everything energy-related this committee has done since his arrival in 2003. Mark will become a partner at Hunton and Williams, where he will doubtless serve his clients well. Mark, congratulations and we will miss you. I ask the Members of the Committee to join me in a round of applause for Mark.

Mr. Secretary, again, welcome. I look forward to working with you, and listening to your testimony today.

MR. DINGELL. Mr. Chairman, I thank you for your courtesy. Good morning and Mr. Secretary, welcome to the committee. Mr. Chairman, I thank you for this hearing. I thank Secretary Bodman for appearing before the committee today to discuss the DOE budget for fiscal year 2007. Mr. Secretary, this time you appear before this committee to discuss DOE's budget and much has transpired since your last visit. First, after several consecutive years of failure, the Congress finally agreed to a comprehensive energy bill that was signed by the President last August. That bill was born out of difficult and hard-fought negotiations touched by a number of important and complex questions and issues. Given that, I am sure that members will be anxious to hear the progress the DOE is making in implementing the various components of that legislation. And by the way here, parenthetically, I would

commend the Chairman here for his leadership in the way that was achieved.

Several months after the energy bill was signed, the Nation suffered one of the worst natural disasters in its history due to Hurricanes Katrina and Rita. The Nation's energy infrastructure in the Gulf Coast was significantly damaged and the country saw even more volatile energy prices as a result. The Energy Information Administration reports that gasoline prices hit an average high of $3.11 per gallon and natural gas prices reached $16.11 per MCF. While prices have abated since then, they still remain high. Hurricane season will soon again be upon us and I would appreciate your comments today as to lessons learned that could be applied again should we be unfortunate enough to undergo similar experiences to the disasters that occurred in the last hurricane season.

Your budget request raises a number of interesting questions that merit attention. First, in the President's State of the Union address, he announced an advanced energy initiative that would help achieve an Administration goal of replacing more than 75 percent of our oil imports from the Middle East by 2005. Questions rise around that. Is this a realistic goal? If so, how precisely will we get there? Does this initiative consist of new programs or just funding for the Energy Policy Act of 2005 and other statutes or would it entail new initiatives? If so, what will those initiatives be and when will they be submitted to the Congress so that we can commence working on them to meet this difficult, challenging and complex opportunity and engagement?

Second, as I asked in my February 8, 2006 letter to you, which I note, Mr. Secretary, remains unanswered, we are interested in the degree to which the Administration's budget request matches the funding levels we authorized in the energy bill for important programs such as low-income home energy assistance program, LIHEAP regulation and the Energy Star program. I hope that in your visit today you will shed light on these questions, as they are indeed important.

Third, the budget request is also noteworthy for its emphasis on nuclear programs, specifically, the sweeping Global Nuclear Energy Partnership. While certain of its stated purposes, such as non-proliferation, are laudable, others appear to require closer scrutiny. However, I am concerned that this sprawling new venture may divert many of DOE's attentions from other immediate concerns, such as fulfilling its current responsibilities under the Nuclear Waste Policy Act with respect to Yucca Mountain, which is not, as I am sure you will agree, going very well. It is years behind and billions of dollars over-budget.

In this connection, I would ask that a November 10, 2005 letter that Representative Boucher and I sent to DOE regarding various nuclear

matters and the Secretary's response of yesterday be included in the hearing record, Mr. Chairman, without objection.

CHAIRMAN BARTON. Without objection.

[The document follows:]

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November 10, 2005

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

Dear Secretary Bodman:

As you know, the report to accompany H.R. 2419, the FY2006 Energy and Water Development Appropriations bill, includes language providing $50 million to the Department of Energy (DOE) to "develop a spent nuclear fuel recycling plan." The report directs DOE to select one or more "advanced recycling technologies," to perform design work on an "Engineering Scale Demonstration" of such technology, to prepare "the overall program plan," and to "initiate a competition to select one or more sites suitable for development of integrated recycling facilities," including work on an Environmental Impact Statement.

The report language proposes that DOE make a total of $20 million available to as many as four "site offerors," and directs the Secretary to begin site selection competition by June 30, 2006, with a target for the initiation of construction of one or more recycling facilities in 2010.

This report language proposes a substantially new policy for nuclear waste disposal in this country, involves the expenditure of substantial sums, and raises a number of complex questions. In order to assist Members of Congress in understanding the implications of this legislation, we request that you respond to the attached questions by Wednesday, November 23, 2005.

Sincerely,

JOHN D. DINGELL
RANKING MEMBER

RICK BOUCHER
RANKING MEMBER
SUBCOMMITTEE ON ENERGY
AND AIR QUALITY

Attachment

cc: The Honorable Joe Barton, Chairman
Committee on Energy and Commerce

The Honorable Ralph M. Hall, Chairman
Subcommittee on Energy and Air Quality

Questions regarding FY2006 Energy and Water Development Appropriations Act (H.R. 2419)

1. Does the Administration support the policy set forth in the report language, including: (a) the expenditure of $50 million for the purpose of developing one or more "integrated recycling facilities"; (b) the requirement that the Department of Energy (DOE) conduct a competition to select one or more sites for such a facility (or facilities); and (c) the proposal to grant $20 million to "site offerors"?

2. Does DOE currently have statutory authority to select a site for, construct, and operate an "integrated recycling facility," pursuant to the Nuclear Waste Act, the Atomic Energy Act, or any other law? If so, please identify such existing authority and how it would authorize DOE to implement the policy set forth in the report language. If not, please identify what specific additional statutory authority would be needed.

3. If the Department currently has statutory authority to select a site for, construct, or operate an "integrated recycling facility":

   a. Does such authority bar location of such a facility in any specific location, such as the State of Nevada?

   b. Does such authority require licensing of any such facility by the Nuclear Regulatory Commission (NRC)?

   c. Would the Department's exercise of such authority be subject to the requirements of the National Environmental Policy Act (NEPA)? If so, at what point in the process proposed by the report language would such requirements be triggered? Would the Department be required to evaluate alternatives to the proposed action?

4. Please provide a list of all DOE sites that would be eligible for the type of integrated recycling facility described by this report language. What other types of Federal sites would be eligible?

5. How would the Department include DOE sites in the competition for siting an integrated recycling facility? Who would speak for the site – the contractor, the community, the Governor of the affected State?

6. How realistic are the deadlines set forth in the report language – submission by the Secretary of a "detailed program plan" to Congress by March 31, 2006; initiation of the site selection competition by June 30, 2006; site selection in FY2007; and initiation of construction of one or more facilities by FY2010?

7. What impact would implementation of this report language have on the Department's ability to fulfill its responsibility to construct and operate a permanent repository under the Nuclear Waste Policy Act? Specifically, please describe the impact on budget priorities, personnel, and other resources necessary for the Yucca Mountain repository program.

8. How would the Department ensure that the $20 million provided under this report language for "site offerors" (applicants to host an integrated recycling facility) is spent wisely?

9. Press reports indicate that in a speech before the 2005 Carnegie International Nonproliferation Conference on November 7, 2005, Secretary Bodman proposed that developed nuclear countries offer "cradle-to-grave" nuclear fuel services for other countries who agree to forego plans for enrichment and reprocessing. Does the Secretary's proposal depend on the U.S. adopting a policy similar to that proposed in the report language?

10. The bill also slashed funding for the Yucca Mountain program conducted pursuant to the Nuclear Waste Policy Act to $450 million, $127 million less than the FY2005 funding level and $201 million less than the Administration's FY2006 request.

    a. How much money is expected to be contributed by ratepayers to the Nuclear Waste Fund in FY2006?

    b. How much of the amount ratepayers contribute will be appropriated from the Nuclear Waste Fund for the Yucca Mountain repository program during FY2006?

    c. What, if any, assurance do ratepayers have that the amount of money they contribute to the Nuclear Waste Fund in FY2006 above that which is appropriated to the Yucca Mountain repository for that year will be spent for its intended purpose – and not effectively diverted to other spending priorities?

    d. Please describe how the reduction of $201 million compared to your request will affect the program activities described in your request.

The Secretary of Energy
Washington, DC 20585

March 7, 2006

The Honorable John D. Dingell
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Dingell:

The report on H.R. 2419, the FY 2006 Energy and Water Development Appropriations Act, addresses an approach for the disposal of nuclear waste that would result from technological revisions to the current nuclear fuel cycle. The full implications of applying this approach under current law would have to be defined in the context of concrete initiatives implementing the program described in the report.

The responses to your questions are enclosed. If you have any questions, please contact me or Jill L. Sigal, Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

Samuel W. Bodman

Enclosure

cc: The Honorable Joe Barton
Chairman, Committee on Energy and Commerce

The Honorable Ralph M. Hall
Chairman, Subcommittee on Energy and Air Quality

The Honorable Rick Boucher
Ranking Member, Subcommittee on Energy and Air Quality

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DEPARTMENT OF ENERGY REPONSES TO QUESTIONS RAISED IN THE NOVEMBER 10, 2005 LETTER FROM CONGRESSMAN DINGELL AND CONGRESSMAN BOUCHER REGARDING REPORT LANGUAGE PROVIDING FOR DEVELOPMENT OF A SPENT FUEL RECYCLING PLAN

Q1. Does the Administration support the policy set forth in the report language, including:
(a) the expenditure of $50 million for the purpose of developing one or more "integrated recycling facilities";
(b) the requirement that the Department of Energy (DOE) conduct a competition to select one or more sites for such a facility (or facilities); and
(c) the proposal to grant $20 million to "site offerors"?

A1(a). The Energy and Water Development Appropriations Act makes $50 million, not derived from the Nuclear Waste Fund, available for nuclear waste disposal activities to carry out the purposes of the Nuclear Waste Policy Act of 1982 (NWPA). The Conference Report explains that the $50 million not derived from the Nuclear Waste Fund should be used to develop a spent nuclear fuel recycling plan. The Department supports the policy to develop and ultimately deploy integrated recycling facilities that would carry out the purposes of the NWPA. The Department believes that integrated recycling facilities can result in treatment of spent fuel to reduce the volume, heat content and the radiotoxicity of the material to be disposed of in the repository at Yucca Mountain. The Department supports the commitment of $50 million to develop integrated recycling facilities.

A1(b). An integrated recycling process would likely include several types of facilities such as a reprocessing facility, an advanced fuel cycle facility that includes fabrication capabilities, and a reactor to burn the reprocessed fuel. The Department is proceeding with the research and development on such facilities and currently plans to initiate work on an engineering scale reprocessing facility in the near future. The Department has experience

conducting a competitive process for site selection for a facility. The Department believes a competitive process can be very useful in identifying and assessing alternative sites. The Department is evaluating the benefits of using a competitive process to select the site(s) for some or all of the Department facilities necessary to develop and deploy an integrated recycling process.

A1(c). The Department currently is considering the feasibility of making the $20 million available to "site offerors" in the near future.

Q2. Does DOE currently have statutory authority to select a site for, construct, and operate an "integrated recycling facility," pursuant to the Nuclear Waste Policy Act, the Atomic Energy Act, or any other law? If so, please identify such existing authority and how it would authorize DOE to implement the policy set forth in the report language. If not, please identify what specific additional statutory authority would be needed.

A2. The Department has sufficient authority under sections 31 and 32 of the Atomic Energy Act of 1954 (AEA) to undertake research and development activities on integrated recycling facilities such as an engineering scale reprocessing facility. Analysis of Departmental authority for actions after the completion of research and development activities is premature. The specific details of a particular action are needed before the analysis can be undertaken.

Q3. If the Department currently has statutory authority to select a site for, construct, or operate an "integrated recycling facility":

(a) Does such authority bar location of such a facility in any specific location, such as the State of Nevada?
(b) Does such authority require licensing of any such facility by the Nuclear Regulatory Commission (NRC)?

(c) Would the Department's exercise of such authority be subject to the requirements of the National Environmental Policy Act (NEPA)? If so, at what point in the process proposed by the report language would such requirements be triggered? Would the Department be required to evaluate alternatives to the proposed action?

A3(a). No statutory bar exists on the siting of "integrated recycling facilities" at any site, including sites located in the State of Nevada. Provisions in the NWPA limit the authority of the Department to undertake interim storage of spent fuel that is subject to Standard Contracts under the NWPA. These limitations, however, do not apply to the acceptance and storage of spent fuel in connection with research and development activities done under the AEA or in connection with the operation of an integrated recycling facility.

A3(b). Section 202 of the Energy Reorganization Act identifies the types of DOE facilities subject to licensing by the NRC. Section 202, in general, does not cover research and development activities such as an engineering scale reprocessing facility.

A3(c). The Department's action to construct and operate an integrated recycling facility would be subject to the requirements of the National Environmental Policy Act (NEPA). DOE anticipates announcing the initiation of its NEPA process in the near future. DOE plans to issue an Advance Notice of Intent to Prepare an Environmental Impact Statement for the Global Nuclear Energy Partnership (GNEP) Technology Demonstration Program. This EIS will inform DOE officials and the public of the potential environmental impacts associated with the proposed program to demonstrate the U.S. capability to safely recycle spent nuclear fuel using a proliferation-resistant separation process and the conversion of transuranics into shorter-lived radioisotopes. The proposed technology development

program includes three major projects that would be conducted in new or existing facilities. These projects would demonstrate: (1) a proliferation-resistant process that would separate the usable elements in commercial spent nuclear fuel from its waste elements; (2) the conversion of transuranics; and (3) operation of an advanced fuel cycle facility that includes fabrication capabilities. The EIS will address siting, construction, and operation of these facilities. The EIS will evaluate all reasonable alternative technologies and locations of key elements of the technology demonstration program.

Depending upon the results of this demonstration program, DOE anticipates conducting a programmatic EIS (PEIS) that would address the potential environmental impacts of any commercial-scale adoption of these technologies for the management of spent nuclear fuel from commercial reactors, as well as reasonable alternatives.

Q4. Please provide a list of all DOE sites that would be eligible for the type of integrated recycling facility described by this report language. What other types of Federal sites would be eligible?

A4. Potentially many DOE and other federal sites might be acceptable locations for an integrated recycling facility. Development of a list of potential DOE or other types of Federal sites will be undertaken when a particular proposed action is formulated.

Q5. How would the Department include DOE sites in the competition for siting an integrated recycling facility? Who would speak for the site – the contractor, the community, the Governor of the affected State?

A5. In moving forward with the plan to develop and deploy integrated recycling facilities, the Department will be mindful that the siting of such a facility can involve issues of

significant concern to affected communities and local and State governing bodies. The Department is considering how best to ensure that the concerns of all interested entities are taken into account.

Q6. How realistic are the deadlines set forth in the report language - submission by the Secretary of a "detailed program plan" to Congress by March 31, 2006; initiation of the site selection competition by June 30, 2006; site selection in FY2007; and initiation of construction of one or more facilities by FY2010?

A6. The Department is planning to submit a preliminary program plan by March 31, 2006. Target dates for implementing milestones necessarily will depend on the particulars contained in the plan.

Q7. What impact would implementation of this report language have on the Department's ability to fulfill its responsibility to construct and operate a permanent repository under the Nuclear Waste Policy Act? Specifically, please describe the impact on budget priorities, personnel, and other resources necessary for the Yucca Mountain repository program.

A7. The development of a spent nuclear fuel recycling plan in FY 2006 will not impact the Department's ability to fulfill its responsibility to construct and operate a permanent repository under the NWPA or its current plans to submit a license application to the NRC for the repository at Yucca Mountain. Were the recycling approach to be implemented successfully, operation of integrated recycling facilities would assist waste disposal by reducing the volume, heat content and the radiotoxicity of the material to be emplaced in the repository. The Department will consider at the appropriate time whether it needs to seek an amendment to the repository license or other licensing action

to take into account the changed circumstances resulting from the development and deployment of integrated recycling facilities.

Q8. How would the Department ensure that the $20 million provided under this report language for "site offerors" (applicants to host an integrated recycling facility) is spent wisely?

A8. Any arrangement selected by the Department to provide financial support to site offerors for the development of detailed site proposals would necessarily contain procedures, controls and reports to ensure that government funds are expended in conformity with any governing statutory requirement and implementing funding agreements. For both contracts and financial assistance agreements, the Department has extensive regulations and required procedures in place to monitor performance under the agreements. If additional controls were determined to be advisable, they could be included in such agreements.

Q9. Press reports indicate that in a speech before the 2005 Carnegie International Nonproliferation Conference on November 7, 2005, Secretary Bodman proposed that developed nuclear countries offer "cradle-to-grave" nuclear fuel services for other countries who agree to forego plans for enrichment and reprocessing. Does the Secretary's proposal depend on the U.S. adopting a policy similar to that proposed in the report language?

A9. The Secretary's proposal is not dependent on the development of integrated recycling facilities in the United States. Development of proliferation-resistant recycling technology, however, would be consistent with and supportive of the Secretary's proposal.

Q10. The bill also slashed funding for the Yucca Mountain program conducted pursuant to the Nuclear Waste Policy Act to $450 million, $127 million less than the FY2005 funding level and $201 million less than the Administration's FY2006 request.
(a). How much money is expected to be contributed by ratepayers to the Nuclear Waste Fund in FY2006?
(b). How much of the amount ratepayers contribute will be appropriated from the Nuclear Waste Fund for the Yucca Mountain repository program during FY2006?
(c). What, if any, assurance do ratepayers have that the amount of money they contribute to the Nuclear Waste Fund in FY2006 above that which is appropriated to the Yucca Mountain repository for that year will be spent for its intended purpose - and not effectively diverted to other spending priorities?
(d). Please describe how the reduction of $201 million compared to your request will affect the program activities described in your request.

A10(a). The Nuclear Waste Fund is expected to receive approximately $750 million in fees in FY 2006.

A10(b). $100 million of the FY 2006 appropriation is from the Nuclear Waste Fund. $350 million of the FY2006 appropriation is from Defense Nuclear Waste Disposal appropriations. The remaining $50 million appropriated comes from general Treasury funds.

A10(c). The balance of the fees collected in FY 2006 will be added to the balance in the Nuclear Waste Fund. As required by the NWPA, the Nuclear Waste Fund cannot be used for any purpose other than the nuclear waste disposal activities specified in the Act. In addition, these balances accrue interest that is dedicated to future NWPA waste disposal activities.

A10(d). This program is extremely complex both technically and legally. Any reduction in appropriations from the level requested risks additional delay, but at this time the extent of those delays cannot be predicted on a dollar-for-dollar basis.

MR. DINGELL. Mr. Secretary, all of us appreciate the magnitude of DOE's tasks and the difficulties that you confront in addressing them. I can hardly disagree with the goals that purport to wean us from our dependence on foreign oil and I applaud you for attempting the difficult task of envisioning a long-term nuclear energy policy. These are things

on which we have struggled for a long time. I hope you have better success than have your predecessors on these two questions.

I hope, however, that we can focus on the policies that the Congress has already put in place that address some of the important problems of the day and that affect our citizens right now, such as conservation, efficiency, and nuclear waste. Again, Mr. Secretary, I thank you for your appearance before us today. I thank you, Mr. Chairman, for recognizing me and I yield back the balance of my time.

[The prepared statement of Hon. John D. Dingell follows:]

PREPARED STATEMENT OF THE HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman, thank you for holding this hearing. I want to thank Secretary Bodman as well for appearing before the Committee today to discuss the Department of Energy's (DOE) budget request for fiscal year 2007.

Mr. Secretary, this is the second time you have appeared before the Committee to discuss DOE's budget and much has transpired since your last visit. First, after several consecutive years of failure, the Congress finally agreed on a comprehensive energy bill that was signed by the President last August. That bill was born out of difficult and hard-fought negotiations and touched on a number of important and complex topics. Given that, I am sure Members will be anxious to hear what progress DOE is making in implementing the various components of that bill.

Second, less than a month after the energy bill was signed, the Nation suffered one of the worst natural disasters in its history due to Hurricanes Katrina and Rita. The Nation's energy infrastructure in the Gulf Coast was significantly damaged and the country saw even more volatile energy prices as a result. The Energy Information Administration reports that gasoline prices hit an average high of $3.11 per gallon and natural gas prices reached $16.11 per mcf. While prices have abated since then, they remain high. Hurricane season will soon be upon us again and I would appreciate your comments as to lessons learned that could be applied should we be unfortunate enough to experience similar disasters this year.

Your budget request raises several interesting questions that also merit attention. First, in the President's State of the Union address, he announced an "Advanced Energy Initiative" that would help achieve an Administration goal of replacing "more than 75 percent of our oil imports from the Middle East by 2025." Is that a realistic goal? And, if so, how precisely do we get there? Does this initiative consist of new programs or just funding for the Energy Policy Act of 2005 and other statutes?

Second, and as I asked in my February 8, 2006, letter to you (which I note remains unanswered), we are interested in the degree to which the Administration's budget request matches the levels of funding we authorized in the energy bill for important programs such as the Low-Income Home Energy Assistance Program (LIHEAP), weatherization, and the EnergyStar program. I hope that your visit with us today will shed light on these questions.

Third, the budget request is also noteworthy for its emphasis on nuclear programs, specifically the sweeping "Global Nuclear Energy Partnership." While certain of its stated purposes, such as nonproliferation, are laudable, others require closer scrutiny. Moreover, I am concerned that this sprawling new venture may divert DOE's attention from other immediate concerns, such as fulfilling its current responsibilities under the Nuclear Waste Policy Act with respect to Yucca Mountain. In this connection, I would ask that a November 10, 2005, letter that Representative Boucher and I sent DOE

regarding various nuclear matters, and the Secretary's response of yesterday, be included in the hearing record.

Mr. Secretary, all of us here appreciate the magnitude of DOE's tasks. I can hardly disagree with goals that purport to wean us from dependence on foreign oil, and I applaud you for attempting the difficult task of envisioning a long-range nuclear energy policy. I hope, however, that we can focus on the policies that the Congress has already put in place that address some of the important problems of the day and that affect our citizens right now, such as conservation, efficiency, and nuclear waste.

Again, I appreciate your appearance before us today and look forward to your testimony.

MR. HALL. [Presiding] Thank you, Mr. Dingell. Mr. Secretary, I won't take my further one minute that we are allotted, but you and I have had several discussions and I appreciate it. You have been very generous, and your staff has been generous, with your time and I understand where you are, what you have to do, and what you are going to do; and we will do that honorably and work together. Maybe we will work something out before it is over, because I think we all want the same thing, and that is to be free of captivity of some Nations that we are dependent on for 60 percent of our energy. We know we can't live with that and four times as a Democrat, I passed the Ultra-deep Amendment with the energy bill.

It got by the Senate and actually, the Conference Committee even had approved it and then one time, as a Republican, I passed it and it has been signed into law. Now I understand one of the best friends I have got in this town was talking about zeroing it out, and I am going to be with him at two o'clock this afternoon and talk to him about it and I thank you for your time. But you know where I am and where we are on that. We are going to try to keep you from doing it, if we can up here, but we will be above board and we will let you know. Somewhere I heard a story said the young lover of Siam to his young maiden to named Kiam, if you kiss me of course you will have to use force, but God knows you are stronger than I am, so we don't know if we are going--that is going to apply or not, but you have got to get somebody up and down here to introduce that bill and then you got to push it through and we are going to sure try to keep you from doing it. Is that fair enough?

SECRETARY BODMAN. Yes, sir.

MR. HALL. Thank you, sir. All right, I recognize Mr. Markey, the gentleman from Massachusetts.

MR. MARKEY. Thank you, Mr. Chairman. Mr. Secretary, the Bush Administration's Global Nuclear Energy Partnership program will cost the Department of Energy $4.5 billion over just the next five years and well over $100 billion if the program goes into commercial operation. This proposal is a reckless and dangerous boondoggle that will bust the budget, wreak havoc with the U.S. Nuclear Nonproliferation Policy, and

only further facilitate the spread of nuclear materials around the world. It does not represent a realistic solution to the Nation's nuclear waste problems.

We have already seen some of the results of this program. Last week President Bush ill-advisedly signed an agreement with the leader of India which is going to blow a hole in the International Nuclear Nonproliferation Treaty and the Nonproliferation Act, which guides American policy. The Pakistanis have already asked for an exception to the law using the Indians as a precedent. We have Iran before the United Nations Security Council asking them to abide by the rules. I do not think, Mr. Secretary, it is advisable for the United States to be telling India that they don't have to play by the rules when we are asking Iran and North Korea and Pakistan and other to play by the rules. You cannot have two separate sets of rules.

I believe that President Bush has made an historic mistake in carving out this exception for the Indian government. I think we are going to reap long-term negative dividends from this decision, and my hope is that as this program continues to be better understood, that the long-term policy of the Bush Administration engaging in selective proliferation rather than uniform nuclear nonproliferation will be understood and that we will put a stop to it. It is just too dangerous for the world to have such a policy.

We can expect Pakistan to be cutting deals with China; we can expect Russia to be cutting separate deals with countries that they favor. This is a precedent based upon this underlying program, which, in my opinion, is going to make the world a much more dangerous place to live in. Thank you, Mr. Chairman.

[The prepared statement of Hon. Edward J. Markey follows:]

PREPARED STATEMENT OF THE HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. Chairman, one of the centerpieces of the Bush Administration's fiscal year 2007 Department of Energy Budget Request is the call for a $250 million down payment on a Global Nuclear Energy Partnership program – a program that DOE estimates will cost $4.5 billion over just the next 5 years, and well over $100 billion if the program goes into commercial operation.

This proposal is a reckless and dangerous boondoggle that will bust the budget, wreck havoc with U.S. nuclear nonproliferation policy, and only further facilitate the spread of nuclear materials around the world. It does not represent a realistic solution to the nation's nuclear waste problems, and it does not represent a viable energy policy in today's competitive electricity markets.

Already, we are seeking the adverse implications of GNEP affecting our international relations. Just last week President Bush and Prime Minister Singh signed an agreement that will effectively exempt India from international and U.S. nuclear nonproliferation laws and controls – exemptions that will allow them to be a part of the Administration's Global Nuclear Energy Partnership. What is the result of this proposal?

We are establishing a precedent that states will inevitably point to as they seek similar exceptions to nonproliferation barriers for their preferred partners. Pakistan has already asked for a similar nuclear bargain from President Bush. If the U.S. says "no", China may now say "yes."

The new Bush India nuclear loophole requires changes to U.S. law and the practices of the 45-nation Nuclear Suppliers Group (NSG), which currently prohibit trade with states (such as India) that have tested nuclear weapons or do not allow international safeguards to verify nuclear technology is not being used to make bombs.

This proposal would effectively grant India highly sought-after access to nuclear technology and materials only accorded to the 183 non-nuclear weapon states that comply with the global nonproliferation standards. Countries that have played by the rules may no longer do so if India is allowed to have its radioactive cake and eat it too.

The United States and India should work together to increase India's electricity production and minimize climate changing carbon emissions through cleaner coal-burning, renewables and energy efficiency technology. They should not, however, tip the delicate scales of world-wide nuclear balance and destroy the rules that have prevented nuclear peril for decades. Representative Upton and I have introduced a bipartisan resolution expressing disapproval of the Bush India deal, and I look forward to working with Members on both sides to oppose this dangerous loophole.

I would note that shortly after the India deal was announced, I offered an amendment in the Energy Conference to disapprove it. That amendment was approved by the House conferences with your support, Mr. Chairman. Unfortunately, it was rejected by the Senate conferees after the Administration asked them to withhold judgment on the initial July 18th India deal until all of the details were worked out. Those details were hammered out last week in New Delhi in an all-night negotiating session in which the Bush Administration appears to have capitulated to virtually all of the demands put forward by the Indian government..

I look forward to hearing more this morning about the Administration's plan to transform itself into the Johnny Appleseeds of nuclear power with this new Global Nuclear Energy Partnership, and the implications of partnering with countries like India – who refuse to sign the Nuclear Nonproliferation Treaty or accept full-scope international proliferation safeguards. I believe that policy is fraught with danger for the world. I also believe that reprocessing continues to be uneconomic in the U.S. I look forward to hearing the Secretary's testimony on these matters.

MR. HALL. The gentleman's time is expired. The chair recognizes the gentleman from Florida, Mr. Stearns, for one minute.

MR. STEARNS. Thank you, Mr. Chairman, and I appreciate the Secretary coming here. You are going to get a lot of tough questions here. You can just see it from the top, from the gentleman from Massachusetts and frankly, some of the things he is talking about some of the conservatives have the same concern. So I mean, he is echoing, obviously, what he feels, but there are some pundits on the conservative side that ask some of the same questions about what happened in India and the inconsistent policy with Pakistan and why that is, so you are going to be called this morning to explain this policy. In Florida, obviously, we are all concerned with the high cost of energy. We have a thousand people coming into Florida every day, it is probably a 30 percent increase in electricity consumption over the next 10 years, so we are anxious to hear your solution to the problem, so I appreciate your

coming here and answering these questions and thank you, Mr. Chairman.

[The prepared statement of Hon. Cliff Stearns follows:]

PREPARED STATEMENT OF THE HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Thank you, Mr. Chairman, for calling this hearing.

Mr. Secretary, welcome and thank you for taking the time to appear before us today. I appreciated your efforts to work with Congress in passing last year's energy bill, and look forward to our continued cooperation to tackle a specific segment of the energy production industry: nuclear power.

My home state of Florida is one of the fastest growing states in the nation, with more than 17 million citizens -- and nearly 1,000 new residents arriving every day. According to the Florida State Department of Environmental Protection, my state's expanding economy will lead to a 30 percent increase in electricity consumption over the next ten years.

Of course, Floridians, like most Americans, want their energy as clean as possible. Because nuclear power is abundant, safe, reliable, and free of harmful emissions, Florida already looks to nuclear power for about 15% of its electricity needs.

In his Fiscal Year 2007 budget, the President requested $544.5 million for nuclear waste disposal at Yucca Mountain, a $50 million increase from FY06 appropriations.

Some $20 billion has been collected in the Nuclear Waste Trust Fund for the implementation of the Yucca Mountain storage site -- over $1 billion from Florida alone. While I appreciate the Department's proposed Global Nuclear Energy Program (GNEP), which will over time reduce the amount of spent nuclear fuel destined for storage, this does not obviate the need to finally open Yucca for business. Since 1998, the law has required the Federal government to collect spent fuel, and it is time for collection to get underway.

Mr. Secretary, I eagerly await a legislative proposal to set sensible scientific standards for waste disposal, and to comprehensively address Yucca Mountain.

While no new nuclear plants have entered service in Florida since 1983, Progress Energy will be announcing plans later this month to construct a new nuclear plant in my state. I commend them for considering this important investment in our energy future. So, Mr. Chairman, Mr. Secretary, let's not leave energy providers hanging in regulatory limbo. Let's get Yucca done.

MR. HALL. The chair recognizes Mr. Allen from Maine for a minute.

MR. ALLEN. Thank you, Mr. Chairman, for holding this hearing and Secretary Bodman, thank you for being here today. Mr. Secretary, I am puzzled by certain aspects of the President's proposed budget for the Department of Energy. Last year gasoline prices shot up to over $3 a gallon for the first time and wholesale natural gas prices, which had doubled between 2002 and the beginning of 2005, doubled again by the end of last August. In response, you are proposing an 18 percent cut to the energy efficiency programs at the Energy Efficiency and Renewable Energy Office. Prices spike, supplies get tight and you respond by

proposing to cut the portion of the budget that focuses on reducing demand. That doesn't make sense.

This committee recognized that energy efficiency is a case where the government should lead by example and yet the Federal Energy Management Program, which leads the government-wide effort to save energy, has been cut by 13 percent. I would simply suggest the Administration's priorities are often incomprehensible. We ought to be investing in programs that reduce our energy consumption. I am disappointed by the consummate hope that Congress will increase funding in these areas.

MR. STEARNS. [Presiding] I thank the gentleman. Mr. Ferguson.

MR. FERGUSON. Thank you, Mr. Chairman. Thank you for holding this hearing. I thank the Secretary for being here to testify and talk about the budget and other energy issues. I appreciate the Administration's commitment to investing in renewable energy. I happen to be a fan of solar energy as well as other renewable energy. I have a bill on solar energy and I look forward to discussing that further. But Mr. Secretary, I want to note that PJM, which is the RTO serving 13 States in the Mid-Atlantic and the Midwest, including my home State of New Jersey, has applied to the Department seeking your support for the construction of new transmission lines to ensure the future reliability of electric supplies and lower electricity prices in New Jersey.

The new transmission facilities from the Midwest through Pennsylvania to New Jersey would help to ensure the availability of low-cost power to the region and will provide a means to spur the development of new advanced generation technologies, including renewable energy resources like solar and wind power. This is a first formal application before the Department seeking to utilize the authority that this committee provided to the Department of Energy in the Energy Policy Act from last year to designate "national interest electric transmission corridors."

I hope that the Department will move thoughtfully, but also in a timely manner in reviewing this request because it has really important implications for my district, for our State of New Jersey and for our region for helping to make the provisions of last year's Energy Policy Act really successful and I appreciate your time today. Thank you for being here. I yield back.

MR. STEARNS. Thank the gentleman. Ms. Capps recognized for one minute.

MS. CAPPS. I prefer to save my time for the questions.

MR. STEARNS. The gentlelady prefers to save her time.

MS. CAPPS. I welcome the Secretary.

MR. STEARNS. Mr. Terry for one minute. The gentleman saves his time. Mr. Burgess. Mr. Burgess.

MR. BURGESS. Mr. Chairman, I have a statement also for the record, but Mr. Secretary, thank you for being here this morning. I do hope we will hear from you this morning on a bill that we passed last fall, the second energy bill that we passed in the 109th Congress. This was a bill that dealt with increasing refining capacity in this country and also put a time line on development of a pipeline to bring natural gas from Alaska and Canada back into the lower 48 States. It has already been alluded to as to how the gas prices, natural gas prices are in this country. Whatever relief we can bring to our constituents, I think we need to be on about doing and I would just be interested in your thoughts on the second bill and what we may do to facilitate that in the Senate, and I will yield back.

[The prepared statement of Hon. Michael Burgess follows:]

PREPARED STATEMENT OF THE HON. MICHAEL BURGESS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. Chairman,

Thank you for convening this hearing today.

One of my most important responsibilities as a Member of Congress is to ensure that my constituents' tax dollars are being spent wisely. It is for that reason that I look forward to the ongoing debate about our national funding priorities.

Secretary Bodmin, thank you for appearing before us this morning. As we begin the Fiscal Year 2007 appropriations cycle, it will be helpful to hear from you about the President's Budget request for the Department of Energy, particularly as this is the first budget year after enactment of the Energy Policy Act of 2005.

I am especially interested to hear your testimony on the DOE's oil and natural gas research programs. One of the best ways to decrease our dependence on foreign sources of oil is to make the most out of our domestic oil resources we do have. Research funded through this account, such as enhanced oil recovery using carbon dioxide, can help to increase domestic supply.

We've seen that in North Texas with the Barnett Shale -- thirty years ago, the Barnett shale was nothing but rock. Since that time, with the help of a DOE grant, George Mitchell was able to develop the technology to recover the natural gas in the Barnett shale. In 2004, it produced 370 Billion Cubic Feet and total reserves for the Barnett Shale are estimated to be over 500 Trillion Cubic Feet.

Now, companies using the technology developed by Mitchell and in North Texas are looking at tapping into several other shale natural gas plays around the country. What began as a small expenditure by the Department of Energy has already brought trillions of cubic feet of natural gas into our domestic supply and has the potential to allow us to tap trillions more. This has helped to hold down the cost of natural gas despite dramatically increased demand. As we face increasing prices for oil, gas, and other petroleum products, this will be extremely important moving forward.

Secretary Bodmin, thank you again for appearing before us this morning. I yield back.

MR. STEARNS. The gentleman yields back. Mr. Stupak is recognized for one minute.

MR. STUPAK. Thank you. Mr. Secretary, welcome. I think we can all agree our Nation faces an energy crisis. Americans are paying record prices to fill up their cars and heat their homes. We remain dangerously dependent upon foreign energy sources and I have seen little from the President's 2007 budget that would change this. Families are paying 23 percent more on natural gas, 24 percent more on home heating, and 9 percent more for electricity than they did last year. Take a look at this heating bill my staffer's handing you from a senior complex in Oscoda, Michigan. Last November their bill was $5,377.57; a month later, their bill was $12,492.65. This is what northern Michigan residents are facing this winter. The total LIHEAP for the senior citizen complex is approximately $7,000. It was used up in one month.

At the same time my constituents are faced with the choice of gassing up their cars or paying for groceries, oil companies are reaping record profits and refineries have increased their prices by 255 percent. I have been asking for a hearing in this committee for the last six months on the dramatic increases of natural gas and oil prices, but so far my requests have fallen on deaf ears. Just as this committee has failed to investigate skyrocketing energy prices, the President has offered little more than rhetoric and photo ops. His 2007 budget fails to provide the necessary funding to accomplish the energy goals set forth in his State of the Union address.

So Mr. Secretary, I believe the American people deserve better and I look forward to your testimony today.

MR. STEARNS. I thank the gentleman. Mr. Murphy from Pennsylvania.

MR. MURPHY. Thank you.

MR. STEARNS. You are recognized for one minute.

MR. MURPHY. Thank you, Mr. Chairman, and thank you for being here, Mr. Secretary. In an era where Iran turns off the OPEC oil valve because we protest their attempts to get nuclear weapons, when Venezuela shows its strong ties to Castro, when Russia ups the ante for Ukraine trying to get natural gas, we see the vital importance of energy independence in America. My wish is that America would set the same sort of focus that Kennedy said years ago for getting to the moon and we should aim towards energy independence within 10 years. Otherwise we remain hostage to other countries for this. One of the concerns that I will have that I want to be asking more about has to do with the cuts for the clean coal initiatives, and the cuts in some of the other oil and gas research areas I think are absolutely vital if we are going to have this energy independence. We have an abundant supply of coal lasting us a couple hundred years, and I want to make sure that is one of the areas

that we address in this budget because I believe we cannot afford to have those cuts. Thank you, Mr. Chairman.

[The prepared statement of Hon. Tim Murphy follows:]

PREPARED STATEMENT OF THE HON. TIM MURPHY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. Chairman,

Our nation's energy supply is falling short of our needs. Demand for oil and natural gas has greatly increased in recent years, our national production supply is down.

As I see it, the problem lies in the fact that we depend far too much on foreign countries for our oil. If we are to secure our homeland and make our country more energy independent, then we must rely less on imports in the future. We must continue to make investments in our energy infrastructure by expanding natural gas storage facilities, building more refineries, and opening up our shorelines to exploration.

Moreover, we can never overlook the importance of coal as a vital domestic energy source. From the early 19th century, it was coal that made Western Pennsylvania the center of energy production for a growing nation. Coal must be a cornerstone of our strategy to achieving energy independence. At current rates of consumption, we have nearly a 300-year supply of coal in this country, enough to provide more than fifty percent of the fuel used to generate our domestic electricity needs. Out of our four major fuel sources – oil, gas, uranium, and coal – coal has the largest domestic reserve base, and the largest share of U.S. energy production in BTUs.

I'm concerned with the Bush Administration's funding proposal for coal technologies in the budget. In the FY 2007 budget request, the Administration's FutureGen initiative is funded at $54 million, while the Clean Coal Power Initiative (CCPI) is only allocated $5 million, compared to $54 million dollar difference in FY2006. If the Administration believes we ought to reduce our countries dependency on foreign oil, and considers coal a major component of its national energy strategy because of its low-cost abundance, then I don't see how critical funding for the Clean Coal Power Initiative can be over looked. It is the CCPI program that takes these clean coal technology concepts developed in research & development and demonstrates them on a commercial scale. This is important because without such demonstrations industry generally will not take the risk to build them. In addition the CCPI program is implemented by the National Energy Technology Laboratory, NETL. If funding is cut from onsite research at NETL then there will be jobs lost through reduced hiring of contractors from the area.

FutureGen is a needed venture to help build the world's first coal-fueled zero emissions power plant generating "clean power" from coal, (and I am very supportive of that public-private partnership) I just believe that the DOE coal program has been successful because it has included a portfolio balanced between basic research and demonstration projects, and the proposed FY07 budget has abandoned that philosophy.

America's energy consumption is at an all-time high and rising. Energy conservation is important, but first and foremost, this nation must generate energy right here at home because we have the resources we need. It must be a national priority to achieve energy independence for the long-term security of America.

Thank you Mr. Chairman.

MR. STEARNS. Mr. Rush is recognized for one minute.

MR. RUSH. Thank you, Mr. Chairman. Welcome, Mr. Secretary, it is always good to have you before our committee. Mr. Chairman,

Congress passed and the President signed into law the Energy Policy Act of 2005 just last yea,r and while I had a lot of reservations, I ultimately supported the bill when we marked it up in this committee and I supported its final passage. Much of my support was due to my LIHEAP and weatherization amendments that this committee passed and were preserved in the final passage. EPACT authorized LIHEAP funding at $5.1 billion and the weatherization program at $600 million. The President's budget falls woefully short on both of these programs and I look forward to hearing from Secretary Bodman on why the President is proposing such a shortfall in LIHEAP and weatherization funding, and I thank you, and I yield back the balance of my time.

MR. STEARNS. Mr. Pitts is recognized for one minute. The gentleman passes. Mr. Shimkus.

MR. SHIMKUS. I will pass.

MR. STEARNS. All right, the gentleman passes. Mrs. Blackburn.

MRS. BLACKBURN. Thank you, Mr. Chairman. Thanks for the hearing and thanks to Secretary Bodman for being here with us today. I really look forward to working with you on some of the progress that we have already made from the Energy Policy Act of 2005. I did find it surprising that in the State of the Union the President did not address ANWR and opening the outer continental shelf. I support several of the initiatives that have been mentioned on hydrogen and renewable fuels and I sincerely hope the President will continue a strong commitment to opening up our currently inaccessible domestic energy sources and I hope we will hear from you a bit on that today.

I think that forcing American families to pay higher energy prices in order to please environmental special interest groups is not good energy policy, and I appreciate the President's emphasis on the use of technology to address our economy's dependence on oil, but I hope we will also continue to focus on expanding domestic oil sources. I also hope that we are going to hear from you and see some greater emphasis on energy efficiencies. I look forward to hearing from you, Mr. Secretary, today and continuing to work with the committee and I yield back.

MR. STEARNS. Ms. Solis, the gentlelady from California. Ms. Schakowsky. Yes, Ms. Schakowsky.

MS. SCHAKOWSKY. Thank you, Mr. Secretary. Despite unusually warm temperatures, the average Midwestern consumer paid 28 percent more to heat their homes this winter and yesterday the Midwest Attorneys General Natural Gas Working Group released a report demonstrating that this rise in price was not caused by simple supply and demand factors; instead, a lack of oversight, wild speculation on the futures market, and price gouging were responsible, they say, for the

wellhead price of natural gas to increase over $400 billion from 2000 to 2005, and the Administration has done nothing to bring those prices down and I don't see anything in the budget that would do that.

The budget funds LIHEAP at a level that is $2.3 billion under what this committee authorized in the Energy Policy Act, cuts millions of dollars from critical energy efficiency programs and increases funding for renewable energy programs by only .2 percent, making the President's State of the Union commitment to end America's addiction to oil nothing, in my view, but an empty promise. Most inexplicitly, this budget invests hundred of millions of dollars in new nuclear infrastructure and dangerous, expensive programs like reprocessing, which could divert resources from nuclear waste cleanup.

It will be hard to justify this nuclear expansion to the residents of Illinois who were informed in February that two Illinois plants spilled radioactive cancer causing tritium between 1996 and 2003, expanding the nuclear industry is a recipe for a public health disaster. Families across the Midwest whose wallets were stressed by the most expensive winter on record should expect more from their Administration. Thank you.

MR. STEARNS. Mr. Otter is recognized.

MR. OTTER. Thank you, Mr. Chairman. Good to have you here, Mr. Secretary. I had hoped my colleagues from the Pacific Northwest would be here to help gang up on you about the DPA diversion of funds. I am going to use my time when I have the opportunity for questions and responses to speak mostly about nuclear energy and in particular, the Idaho National Laboratory and its future. I was a little disappointed in some of the figures and some of the things that I have heard relative to whether or not this Administration is going to fulfill those commitments and responsibilities made by previous Administrations and so I hope we will have a chance to talk about that. But once again, Mr. Secretary, thank you for being here.

CHAIRMAN BARTON. Ms. Solis.

MS. SOLIS. Thank you, Mr. Chairman. I would also like to thank you for having this hearing today and I also want to state that I believe the Department of Energy's budget does not reflect our American priorities. Funding for weatherization and consumer protection programs should be significant, yet we see that Bush's budget cuts will cut LIHEAP by $2.3 billion less than we authorized in the EPACT program. We should be making real investments in Federal research to develop creative energy solutions rather than focusing just on oil and gas and we should rebuild the Gulf Coast quickly as a model of an integrated, diverse, and sustainable society.

What are we doing about monitoring the repairs of the pipelines that were damaged in the Gulf? I hear there were 100 pipelines that were damaged. I encourage this committee to also bring the EPA here to discuss their budget because EPA is ignoring very important priorities that we should be looking at in concert. For example, through 2011 there were nearly $1 billion in gas taxes that could have been used to clean up leaking underground storage tanks and prevent future leaks, but President Bush's budget refuses to expend these funds. I yield back the balance of my time.

CHAIRMAN BARTON. The gentlelady yields back and I would like to compliment her on how nice she looks on TV in that green suit. It looks really, really good on television. It does, it really does. Mr. Sullivan. Has Mr. Murphy been given a chance? Mr. Green of Texas, speaking of green.

MR. GREEN. Thank you, Mr. Chairman, but I have a maroon tie on. How does it look today?

CHAIRMAN BARTON. Wait until we see you on the close-up monitor.

MR. GREEN. Okay. Mr. Chairman, thank you and welcome, Mr. Secretary, and those of us who strongly supported the Energy Act and I guess we are concerned about where the budget priorities are. Obviously, I share the same concern on LIHEAP and weatherization, but I count 76 programs authorized by the Energy Policy Act which the President strongly supported but received zero dollars. Our committee established a number of loan guarantee programs for the next generation of energy technology like coal and petroleum, coke and the next generation nuclear plants, but again, there is nothing in there for that.

I am concerned that the $50 million authorized for the Ultra-deep Water Research program, the President has requested zero dollars and last year Congress appropriated $64 million, a pretty modest sum for oil and gas research and development; here again, we have zero dollars this year. And no matter how many speeches we give, petroleum and petroleum products are not going to go away anytime soon. Putting our heads in the sand, even if it is oil sands, still doesn't help us break our addiction to foreign oil and so that is why I think our research we need to do and again, we worked with the Department on research to get more out of the ground, so we don't have to knock as many holes in the ground, so hopefully the Budget Committee and Congress will change some of that. But again, welcome.

CHAIRMAN BARTON. The tie doesn't look worth a toot, but your hair looks pretty good on TV. Mr. Inslee of Washington.

MR. INSLEE. Thank you. Mr. Secretary, I think you are one of the most important people in the world today because you have a capability of doing something about global warming. As we speak this morning 36

cubic miles of the Antarctic has melted in the last year. The glaciers in Greenland have accelerated their march to the sea by a factor of two in the last 10 years. We have massive kills by the pine beetle in our forests in the Northwest and Southwest of Canada. We have the disappearance of the glaciers in Glacier National Park, all of which is occurring on your watch and I am very interested in hearing what you intend to do for all of our grandkids and great grandkids who would like to see glaciers in Glacier National Park when they have an opportunity to go there and frankly, to date, your Administration has been AWOL on this issue. It has adopted the posture of the ostrich rather than the American eagle. We hope that it will take its head out of the sand at some point and actually show leadership, internationally and nationally on this, and you are in a position to do so. And I would hope that at some point you would take on that role because we need to and I will look forward to any of your discussion about that today. Thank you.

CHAIRMAN BARTON. We thank the gentleman. The gentleman from Pennsylvania, Mr. Doyle.

MR. DOYLE. Thank you, Mr. Chairman. Mr. Secretary, welcome to our committee. I look forward to hearing your testimony at the conclusion of opening remarks. As we all know, the President, during his State of the Union address declared that Americans are addicted to oil and then made several proposals that he claims would lead our Nation to energy independence. While I applaud the Administration for the statement and welcome you all to the table, I have strong concerns that rhetoric is being substituted for a real commitment to achieving this goal. In 1960 President Kennedy challenged America to put a man on the moon by the end of the decade. NASA saw its total budget increase six-fold over the next eight years by which time that national goal was achieved.

However, in this case, a case that I believe is easier technologically, the President has chosen not to increase your budget by any measurable manner. Instead of bringing new resources to the table, this budget simply robs Peter to pay Paul by shuffling around funds to over fund the President's newly named initiatives while under funding proven programs that can bring near-term solutions to fruition. Simply put, Mr. Secretary, the time for rhetoric has passed. I stand ready to work with you and my colleagues on both sides of the aisle to take the steps we need to turn the dream of energy independence into reality. I yield back, Mr. Chairman.

CHAIRMAN BARTON. The gentleman from Pennsylvania yields back. Is any other Member present who hasn't been given an opportunity to make an opening statement? Seeing none, the Chair asks unanimous

consent that all Members not present be given the requisite number of days to put their opening statements in writing in the record.

[The statements follow:]

PREPARED STATEMENT OF THE HON. TAMMY BALDWIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Thank you, Mr. Chairman for holding this hearing today. Welcome Secretary Bodman.

Like many of my colleagues, I was delighted that President Bush, in his State of the Union address, spoke so candidly about America's energy policy. He echoed those now famous words –America is "addicted to oil." He went on to call for a "break to this addiction." The President then vowed to reduce America's oil dependence by cutting Middle Eastern petroleum imports by 75 percent by 2025. Such an ambitious goal provided a ray of hope to those of us who have advocated for wind power, solar energy, and ethanol use.

Unfortunately, two things have happened since the President's address. First, Secretary Bodman backed away from the President's statement, telling the world - specifically the Middle East - that the President didn't really mean what he said. In fact, he stated that the President's words were meant "purely as an example," and not a real policy directive.

Then, the President released his FY2007 budget proposal. And despite all the promises to improve energy dependence, the budget virtually flat funds the Department of Energy's programs, and cuts others.

For instance, programs that would lower costs for Wisconsin working families see declines in funding. I am concerned about funding for the weatherization program, which assists low-income Wisconsin households increase the efficiency of their homes, yet is cut by $78 million. And, despite a movement towards new technologies aimed at reducing the U.S. demand for oil – such as hydrogen powered automobiles – the money to fund new research initiatives that eventually result in these technologies just doesn't appear to be a priority for this Administration.

Mr. Chairman, Secretary Bodman, if we are truly committed to overcoming our addiction to foreign oil and to reducing record energy prices for Wisconsin's working families and all Americans, we must commit to taking the necessary steps toward reaching our goal – and, we must provide the financial support that will allow us to reach our goals.

Thank you, Mr. Chairman. I look forward to hearing from the Secretary.

PREPARED STATEMENT OF THE HON. SHERROD BROWN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Thank you, Mr. Chairman, and thank you Mr. Secretary for your testimony today.

Secretary Bodman, I wanted to commend you for a responsible request for FutureGen – the proposed public-private partnership to build a production-scale, coal-fueled, zero-emissions fuel cell power plant. Ohio is uniquely situated to host the FutureGen plant, and I fully support the Administration's efforts to move this project forward. To that end, I encourage you to seek a statutory authorization for FutureGen, which would solidify its appropriations footing.

There were, however, a few areas of the Administration's budget proposal that I believe fell short.

The Industrial Technologies program has a track record of proven success in Ohio, and its Industries of the Future component serves industries that play a critical role in

Ohio's economy – including metal casting, steel, chemicals and others. But the President's budget attacks Industrial Technologies again – with a request that would cut funding by 40%, relative to 2005 appropriations.

And hydrogen and hydrogen vehicle development is another shortcoming. The Ohio Fuel Cell Coalition – with member organizations in academia and industry on the cutting edge of fuel cell, hydrogen and battery research – could benefit from a robust investment in the development of these technologies.

And when the President announced the Hydrogen Fuel Initiative in 2003, he committed to deliver $720 million in new funding over 5 years. That equates to $144 million a year, but on average, the President has enacted well less than that. And his 2007 budget requests less than $65 million in new funding, according to an analysis by the Congressional Research Service. I believe we can and should provide much more to support this research effort.

The NASA Glenn Research Center in Cleveland is also engaged in promising research with important energy and economic security potential. NASA Glenn's Ultra-Efficient Engine Technology for Aircraft (UEET) program seeks to develop systems offering significant reductions in jet fuel consumption.

When fully implemented, these efficiency improvements may eventually save airlines 130 million gallons of jet fuel a year. And leadership in this technology would enhance the competitiveness of American engine and aircraft manufacturers in a global marketplace.

I offered an amendment during this committee's consideration of the energy bill, authorizing Energy Department funding to help NASA advance this initiative. My amendment was adopted and enacted as part of the bill. But the President's 2007 budget requests no funding for this important program.

Let me just mention one other thing. I wrote you earlier this year, asking that you accelerate implementation of several energy bill provisions that would support fuel cell and advanced vehicle development. And I asked that you support the establishment of an Advanced Batteries Center of Excellence in Ohio. I have not received your reply yet and would ask that you respond as soon as possible.

To protect Ohio's traditional industries and develop Ohio's emerging industries, my state needs a much more significant commitment from the federal government. I hope I can count on the Administration to join me in supporting increased appropriations for Industrial Technologies, the UEET and other programs of importance to Ohio.

I would also appreciate your prompt reply to my request for accelerated implementation of energy bill provisions important for the development of advanced vehicle industries in Ohio.

Thank you again for taking the time to join us today.

CHAIRMAN BARTON. The Chair would now like to recognize and welcome the Secretary of Energy, the Honorable Sam Bodman, to the Energy and Commerce Committee. Welcome, Mr. Secretary, and you are recognized for such time as you may consume.

STATEMENT OF HON. SAMUEL W. BODMAN, SECRETARY, U.S. DEPARTMENT OF ENERGY

SECRETARY BODMAN. Thank you, Mr. Chairman. I am very pleased to be here in front of the committee. As you know, our Department has several critical energy, economic and national security

missions and these are spelled out in detail in my written testimony, which I will submit for the record. Let me, if I may, take a brief opportunity here at the outset to mention a few of the highlights of the $23.5 billion request from the President. First, the 2007 budget includes a $505 million increase in the Department of Energy's Science Office. The goal here is to support an ambitious new American Competitiveness Initiative which the President outlined in his State of the Union address.

The goal of this is to ensure that America remains at the forefront of science in an increasingly competitive world and to do that, our Department is pursuing transformational new technologies at the cutting edge of scientific fields that we believe will be important in this next decade; areas like nanotechnology, material science, biotechnology and high speed computing. The President also announced the new Advanced Energy Initiative to increase spending on clean energy sources that will reduce our dependence on imported fossil fuels.

While our Department maintains several programs to help consumers conserve energy and lower their utility bills, we also know that the Nation's energy needs will continue to expand as our economy grows. So we are working to accelerate research and development in the most promising renewable energy technologies. Specifically, the 2007 budget request proposes $150 million for biomass, the biomass and biofuels programs; and $148 million to support the Solar America program. In addition, the budget requests a total of $288 million to support implementation of the President's Hydrogen Fuel Initiative.

As a part of the President's Advanced Energy Initiative, the Department's 2007 budget also features a $250 million request to begin investments in the Global Nuclear Energy Partnership. This partnership, GNEP, as we have come to call it, is a new, what we hope will be an international effort to help meet the world's rapidly growing electricity needs with safe, emissions-free nuclear power while enhancing our ability to keep nuclear technology and materials out of the hands of those who would seek to use it for non-peaceful purposes. As a complement to the GNEP strategy, the Department will continue to pursue a permanent geologic storage site for nuclear waste at Yucca Mountain and the 2007 budget includes a $544 million request to support this goal.

For the National Nuclear Security Administration or NNSA, the budget proposes a total of $9.3 billion in 2007, a $211 million increase from the 2006 appropriation. Most of this increase, $111 million, is in the Defense Nuclear Nonproliferation area. Programs that will accelerate efforts to secure nuclear materials in the former Soviet Union and advance an aggressive global nuclear nonproliferation agenda.

Finally, the Department of Energy's budget request also focuses on other key priorities. To meet our environmental commitments, the

budget submission requests $5.8 billion to clean up legacy nuclear waste sites. We recently announced the completion of cleanup at Rocky Flats, a former nuclear weapons plant located outside of Denver. In 2006, DOE will complete the environmental cleanup of the Fernald and Columbus sites in Ohio, the Sandia National Laboratory in New Mexico, and several other smaller sites.

Mr. Chairman, that concludes my prepared statement and I look forward to responding to questions from the committee members.

[The prepared statement of Hon. Samuel W. Bodman follows:]

PREPARED STATEMENT OF THE HON. SAMUEL W. BODMAN, SECRETARY, U.S. DEPARTMENT OF ENERGY

Good morning, Mr. Chairman and Members of the Committee. I am pleased to appear before you today to discuss the President's Fiscal Year (FY) 2007 budget request for the Department of Energy (DOE).

Most notably, this budget request contains:

- **A Landmark Investment in Scientific Research**
  The FY 2007 budget includes a $505 million increase in DOE's Science programs, which is part of a commitment to double funding for certain high-leverage science agencies over the next ten years. The **American Competitiveness Initiative** recognizes that scientific discovery and understanding help drive economic strength and security. Developing revolutionary, science-driven technology is at the heart of the Department of Energy's mission. The increase proposed for the Department's Science programs reflects the significant contribution DOE and its world-class research facilities make to the Nation.

- **Strategic Investments to Reduce America's Dependence on Foreign Oil and Develop Clean Energy Technologies**
  The President's **Advanced Energy Initiative** provides a 22 percent increase for research that can help reduce America's dependence on foreign oil and advance clean energy technologies. The FY 2007 Budget proposes $149.7 million for Biomass and Biorefinery Systems Research and Development (R&D) program to support the new **Biofuels Initiative** to develop cost competitive ethanol from cellulosic materials (agricultural wastes, forest residues, and bioenergy crops) by 2012. In addition, the budget request continues to pursue the vision of reducing America's dependence on foreign oil, reducing air pollution, and reducing greenhouse gas emissions through the development of a hydrogen economy. The FY 2007 Budget requests a total of $289.5 million (including $1.4 million requested by the Department of Transportation) to support implementation of the **President's Hydrogen Fuel Initiative**. The FY 2007 Budget also provides a 27 percent increase for advanced battery technologies that can improve the efficiency of conventional hybrid electric vehicles (HEV) and help make "plug-in" HEVs commercially viable.

  To help develop clean electricity, the FY 2007 Budget funds diverse technology R&D programs. The FY 2007 Budget includes $148.4 million for a new **Solar America Initiative** to develop cost competitive solar photovoltaic technology by 2015. The FY 2007 Budget also provides $60.0 million for U.S.

participation in **ITER**, an international experimental reactor program that has the potential for putting us on a pathway to tap nuclear fusion as an enormous source of plentiful, environmentally safe energy. The FY 2007 advances the Administration's commitment to the **FutureGen** project, which will establish the capability and feasibility of co-producing electricity and hydrogen from coal with near-zero atmospheric emissions of pollutants and greenhouse gasses.

- **Strategic Investments to Enable Nuclear Energy Expansion in a Cleaner, Safer Manner**

  The Department's FY 2007 budget features $250 million to begin investments in the Global Nuclear Energy Partnership (GNEP). GNEP is a comprehensive strategy to enable an expansion of nuclear power in the U.S. and around the world, to promote non-proliferation goals; and to help resolve nuclear waste disposal issues.

  The Energy Information Administration (EIA) projects that over the next 25 years, demand for electricity in the United States alone will grow by over 40 percent. Nuclear power is an abundant, safe, reliable and emissions-free way to help meet this growing demand for energy throughout the world. As part of the GNEP strategy, the United States will work with key international partners to develop and demonstrate new proliferation resistant technologies to recycle spent nuclear fuel to reduce waste. To help bring safe, clean nuclear power to countries around the world, the international GNEP partners will also develop a fuel services program to supply developing nations with reliable access to nuclear fuel in exchange for their commitment to forgo developing enrichment and recycling technologies.

  As a complement to the GNEP strategy, the Department will continue to pursue a permanent geologic storage site for nuclear waste at **Yucca Mountain**, and the FY 2007 budget includes $544.5 million to support this goal. Based on technological advancements that would be made through GNEP, the volume and radiotoxicity of waste requiring permanent disposal at Yucca Mountain will be greatly reduced, delaying the need for an additional repository indefinitely.

  GNEP builds upon the successes of programs initiated under President Bush's leadership to encourage the construction of new nuclear power plants here in the U.S. The FY 2007 budget includes $632.7 million for nuclear energy programs, a $97.0 million increase above the FY 2006 appropriation. In addition to the $250 million for GNEP within the **Advanced Fuel Cycle Initiative, Generation IV** (Gen IV) research and development ($31.4 million) will improve the efficiency, sustainability, and proliferation resistance of advanced nuclear systems and Nuclear Power 2010 ($54.0 million), will lead the way, in a cost-sharing manner, for industry to order new, advanced light-water reactors by the end of this decade. In addition, ongoing implementation of the Energy Policy Act of 2005 (EPACT) will establish federal insurance to protect sponsors of the first new nuclear power plants against the financial impact of certain delays during construction or in gaining approval for operation that are beyond the sponsors' control.

- **Strengthening America's National Security Commitments**

  In the area of national security, the budget proposes a total of $9.3 billion in FY 2007, a $211.3 million increase from the FY 2006 appropriation. At $6.4 billion, **Weapons Activities** remain essentially level with the FY 2006

appropriations to continue the transformation of the Nation's nuclear deterrent and supporting infrastructure to be more responsive to the threats of the 21st Century. The majority of the increase, $111.4 million, is in **Defense Nuclear Nonproliferation** programs to accelerate efforts to secure nuclear material in the former Soviet Union and advance an aggressive global nuclear nonproliferation agenda.

The Department of Energy's budget request also focuses on other key priorities. To meet our **environmental cleanup** commitments arising from nuclear activities during the Manhattan Project and the Cold War, the budget requests $5.8 billion to clean up legacy nuclear waste sites. DOE has accelerated cleanup at the legacy nuclear waste sites and recently announced completion of cleanup at Rocky Flats, a former nuclear weapons plant located outside of Denver, Colorado. In 2006, DOE will also complete environmental cleanup of the Fernald and Columbus sites in Ohio, the Sandia National Laboratory in New Mexico, and several other sites.

Reflected throughout the FY 2007 budget are the integration of performance measures and the incorporation of sound business practices in the Department's operation consistent with the President's Management Agenda. We also have established straight-forward operating principles which set the tone for further improving the management of the Department. These principles are:

- Accept no compromises in safety and security
- Act with a sense of purposeful urgency
- Work together, treating people with dignity and respect
- Make the tough choices
- Keep our commitments
- Manage Risk through informed decisions

PROMOTING SCIENCE AND TECHNOLOGICAL INNOVATION

As the millennium unfolds, we stand on the threshold of scientific revolutions in biotechnology and nanotechnology, in materials science, in fusion energy and high-intensity light sources, and in high-speed computing, to touch on only a few important fields. The nations that lead these scientific revolutions will likely dominate the global hi-tech economy for the foreseeable future. We are on the verge of major new discoveries about the nature of our universe, solutions to some of the deepest mysteries of the cosmos and the fundamental understanding of matter—insights that will transform the way we think about ourselves and our world.

The President's **American Competitiveness Initiative** will encourage American innovation and bolster our ability to compete in the global economy through increased federal investment in critical areas of research, especially in the physical sciences and engineering. This initiative will generate scientific and technological advances for decades to come and will help ensure that future generations have an even brighter future.

Twenty-first century science requires sophisticated scientific facilities. In many fields, private industry has neither the resources nor the near-term incentive to make significant investments on the scale required for basic scientific research to yield important discoveries. Indeed, in recent years, corporate research has declined. That is why the Department's Office of Science, which is responsible for ten world-class U.S. national laboratories and is the primary builder and operator of scientific facilities in the United States, plays such a critical role. Investment in these facilities is much more than bricks and mortar; it is an investment in discovery and in the future of our Nation. The Office of Science is also educating and training our next generation of scientists and engineers. Roughly half of the researchers at Office of Science-run facilities are university faculty or graduate or postdoctoral students (who work side by side with scientists and researchers employed directly by the labs), and about a third of Office of

Science research funds go to institutions of higher learning. In addition, the NNSA operates three world-class national laboratories which greatly advances the frontiers of science in connection with their national security mission and which have many interactions with universities.

I am pleased to inform the Committee that the Department is already achieving meaningful scientific results with our latest high-end supercomputing systems, including Blue Gene L and Purple at Lawrence Livermore National Laboratory and our Red Storm supercomputer at Sandia National Laboratory. Within a month of coming online, weapons designers at Lawrence Livermore and Los Alamos, working jointly, have discovered key physics that is important to weapons design that could not have been identified using less capable computers. This discovery is critically important to predicting the behavior of weapons, and, as a result, our ability to be responsive to national needs. Because of the interrelationships among the Department's science-based programs, these new, remarkably powerful computers are already having a major, positive effect on science in several of our laboratories.

The President's FY 2007 budget request of $4.1 billion for the Office of Science will move us forward on several scientific fronts designed to produce discoveries that will strengthen our national competitiveness. Final international negotiations are close to being completed with our international partners in **ITER**, the fusion experimental reactor designed to demonstrate the scientific and technological feasibility of fusion energy. Capable of producing a sustained, burning fusion fuel, ITER will be the penultimate experiment before commercialization of fusion as a plentiful, environmentally friendly source of energy. A request of $60.0 million in FY 2007 provides funding for the second year of the ITER project. The return on investment will expand across international borders and has the promise of tremendous economic opportunity and development.

The FY 2007 budget also includes $105.9 million to enable us to continue construction of the **Linac Coherent Light Source** (LCLS), the world's first x-ray free electron laser. The LCLS will allow us to watch matter in action, one molecule at a time, and witness chemical reactions at the microscopic level in real time. The structural knowledge obtained with x-rays holds the key to understanding the properties of matter such as mechanical strength, magnetism, transport of electrical currents and light, energy storage, and catalysis. Likewise, in biology much of what we know about structure and function on a molecular level comes from x-ray studies. Such knowledge forms the basis for the development of new materials and molecules and the enhancement of their properties, which in turn will advance technology, fuel our economy, and improve our quality of life. In addition, the FY 2007 Budget seeks $19.2 million in FY 2007 for the first full year of operations of each of four facilities for nanoscience research and $19.4 million to continue with construction of a fifth.

The FY 2007 budget provides $171.4 million for the **Spallation Neutron Source (SNS)**, which enters its first full year of operation as the world's foremost facility for neutron scattering.

The FY 2007 budget request also includes $135.3 million for the **Genomes: GTL** research, which will help us understand how nature's own microbial communities can be harnessed to remove carbon from the atmosphere, generate hydrogen for fuel, and turn cellulose into ethanol.

Within the $4.1 billion FY 2007 budget request for Science, $143.3 million is provided to support near full operation of the **Relativistic Heavy Ion Collider (RHIC)**, which gives us a lens into the early universe, and $80.0 million is allocated to allow near full operation of the **Continuous Electron Beam Accelerator Facility (CEBAF)**, which will give new insight on the quark-structure of matter. Early studies of nuclear and particle physics provided the foundation for technologies that have changed our daily lives, giving us televisions, transistors, medical imaging devices, and computers, and has enormous potential to lead to unexpected discoveries. The **Large Hadron Collider**

(LHC) at CERN, scheduled to be completed in 2007, will open a new chapter in illuminating the structure of matter, space and time. At this new energy frontier, qualitatively new phenomena of nature should emerge. There are many possibilities - supersymmetry, extra space dimensions, or unexpected new symmetries of nature - but finding out which, if any, are true can only be settled by experiment. In FY 2007, $56.8 million is requested to support U.S. participation in the LHC research program. The new results anticipated at the LHC can be significantly advanced by discoveries at a potential next generation International Linear Collider (ILC) which would break new ground in our understanding of nature. In FY 2007, the ILC funds for research and development are doubled with a funding request of $60.0 million.

The budget also includes $318.7 million to solidify America's leadership in the economically vital field of **high-speed computing**, a tool increasingly integral not only to advanced scientific research, but also to industry. The budget will provide the pathway toward a point when computers will be so powerful that researchers will be able to attack a wide range of previously impossible scientific problems through modeling and simulation, enabling the U.S. to maintain leadership in this strategic area. Additionally, from development of the suite of scientific software and applications for the petascale computers, U.S. industry will be able to accelerate innovation, saving billions in development costs and giving our economy untold competitive advantages.

We are, in short, on the verge of a revolution across multiple sciences as profound as any humanity has witnessed - one that will transform our vision of nature and, ultimately, our industry and economy.

ADVANCING AMERICA'S ECONOMIC AND ENERGY SECURITY

The Energy Policy Act of 2005, signed by President Bush on August 8, 2005, serves as a roadmap to help lead the United States to a secure energy future. The FY 2007 budget request of $2.6 billion to support energy programs fulfills President Bush's pledge to promote a strong, secure economy and expand our Nation's energy supply by developing a diverse, dependable energy portfolio for the future.

The President has proposed the **Advanced Energy Initiative** to help reduce America's dependence on foreign sources of oil and accelerate development of clean energy technologies through targeted increases in federal investment.

The FY 2007 budget request of $1.2 billion for **energy efficiency and renewable energy** activities reallocates resources to emphasize technologies with the potential for reducing our growing reliance on oil imports and for producing clean electricity with reduced emissions. It includes two new Presidential initiatives; Biofuels and Solar America. The FY 2007 budget proposes $149.7 million for the **Biofuels Initiative** to develop by 2012 affordable, domestically produced bio-based transportation fuels, such as ethanol, from cellulosic feedstocks (such as agricultural wastes, forest residues, and bioenergy crops), and encourage the development of biorefineries. Biomass has the promise to deliver a plentiful domestic energy resource with economic benefits to the agricultural sector, and to directly displace oil use. The **Solar America Initiative** accelerates the development of solar photovoltaics, a technology that converts energy from the sun into electricity. Further development can help this emissions-free technology achieve efficiencies to make it cost-competitive with other electricity generation sources by 2015. The FY 2007 Budget provides $148.4 million for the **Solar Energy Program** that comprises the initiative.

In addition to funding increases for biomass and solar energy, the Energy Efficiency and Renewable Energy budget request includes $195.8 million to support continued research and development in **hydrogen and fuel cell technology** which holds the promise of an ultra-clean and secure energy option for America's energy future. The increase of $40.2 million above the FY 2006 appropriation accelerates activities geared to further improve the development of hydrogen production and storage technologies, and

evaluate the use of hydrogen as an emissions-free transportation fuel source. The President's **Hydrogen Fuel Initiative** is funded at $289.5 million and includes $195.8 million for DOE's Energy Efficiency and Renewable Energy program, $23.6 million for DOE's Fossil Energy program, $18.7 million for DOE's Nuclear Energy program, $50.0 million for DOE's Science program, and $1.4 million for the Department of Transportation.

While the budget proposes increases for Biomass, Solar and Hydrogen research, the Geothermal Program will be closed out in FY 2007 using prior year funds. The 2005 Energy Policy Act amended the Geothermal Steam Act of 1970 in ways that should spur development of geothermal resources without the need for subsidized Federal research to further reduce costs.

Nuclear power, which generates 20 percent of the electricity in the United States, contributes to a cleaner, more diverse energy portfolio. In FY 2007 a total of $632.7 million is requested for nuclear energy activities. Within the total, $250 million will support the **Global Nuclear Energy Partnership (GNEP)**. GNEP is a comprehensive strategy to enable an expansion of nuclear power in the U.S. and around the world, to promote nuclear nonproliferation goals; and to help resolve nuclear waste disposal issues.

GNEP will build upon the Administration's commitment to develop nuclear energy technology and systems, and enhance the work of the United States and our international partners to strengthen nonproliferation efforts. GNEP will accelerate efforts to:

- Enable the expansion of emissions-free nuclear power domestically and abroad;
- Reduce the risk of proliferation; and
- Utilize new technologies to recover more energy from nuclear fuel and dramatically reduce the volume of nuclear waste.

Through GNEP, the United States will work with key international partners to develop new recycling technologies that do not result in separated plutonium, a traditional proliferation risk. Recycled fuel would then be processed through advanced burner reactors to extract more energy, reduce waste and actually consume plutonium, dramatically reducing proliferation risks. As part of GNEP, the U.S. and other nations with advanced nuclear technologies would ensure developing nations a reliable supply of nuclear fuel in exchange for their commitment to forgo enrichment and reprocessing facilities of their own, also alleviating a traditional proliferation concern.

GNEP will also help resolve America's nuclear waste disposal challenges. By recycling spent nuclear fuel, the heat load and volume of waste requiring permanent geologic disposal would be significantly reduced, delaying the need for an additional repository indefinitely.

The Administration continues its commitment to open and license Yucca Mountain as the nation's permanent geologic repository for spent nuclear fuel, a key complement to the GNEP strategy. Managing and disposing of commercial spent nuclear fuel in a safe and environmentally sound manner is the mission of DOE's Office of Civilian Radioactive Waste Management (RW).

To support the near-term domestic expansion of nuclear energy, the FY 2007 budget seeks $54.0 million for the **Nuclear Power 2010** program to support continued industry cost-shared efforts to reduce the barriers to the deployment of new nuclear power plants. The technology focus of the Nuclear Power 2010 program is on Generation III+ advanced light water reactor designs, which offer advancements in safety and economics over the Generation III designs. If successful, this seven-year, $1.1 billion project (50% to be cost-shared by industry) could result in a new nuclear power plant order by 2009 and a new nuclear power plant constructed by the private sector and in operation by 2014.

Funding of $1.8 million is provided in FY 2007 to implement a new program authorized in the recently enacted Energy Policy Act of 2005. The program will allow DOE to offer **risk insurance** to protect sponsors of the first new nuclear power plants against the financial impact of certain delays during construction or in gaining approval

for operation that are beyond the sponsors' control. This program would cover 100 percent of the covered cost of delay, up to $500 million for the first two new reactors and 50 percent of the covered cost of delay, up to $250 million each, for up to four additional reactors. This risk insurance offers project sponsors additional certainty and incentive to provide for the construction of a new nuclear power plant by 2014.

The FY 2007 budget request includes $31.4 million to continue to develop Next-generation nuclear energy systems known as **Generation IV (GenIV)**. These technologies will offer the promise of a safe, economical, and proliferation resistant source of clean, reliable, sustainable nuclear power with the potential to generate hydrogen for use as a fuel. Resources in FY 2007 for GenIV will be primarily focused on long-term research and development of the Very-High Temperature Reactor.

The **University Reactor Infrastructure and Educational Assistance** program was designed to address declining enrollment levels among U.S. nuclear engineering programs. Since the late 1990s, enrollment levels in nuclear education programs have tripled. In fact, enrollment levels for 2005 have reached upwards of 1,500 students, the program's target level for the year 2015. In addition, the number of universities offering nuclear-related programs also has increased. These trends reflect renewed interest in nuclear power. Students will continue to be drawn into this course of study, and universities, along with nuclear industry societies and utilities, will continue to invest in university research reactors, students, and faculty members. Consequently, Federal assistance is no longer necessary, and the 2007 Budget proposes termination of this program. The termination is also supported by the fact that the program was unable to demonstrate results from its activities when reviewed using the Program Assessment Rating Tool (PART), supporting the decision to spend taxpayer dollars on other priorities. Funding for providing fresh reactor fuel to universities is included in the Research Reactor Infrastructure program, housed within Radiological Facilities Management.

Recognizing the abundance of coal as a domestic energy resource, the Department remains committed to research and development to promote its clean and efficient use. U.S. coal accounts for twenty five percent of the world's coal reserves. For the last three years, the Department has been working to launch a public-private partnership, **FutureGen**, to develop a coal-based facility that will produce electricity and hydrogen with essentially zero atmospheric emissions. This budget includes $54 million in FY 2007 and proposes an advance appropriation of $203 million for the program in FY 2008. Funding for FutureGen will be derived from rescinding $203 million in balances no longer needed to complete active projects in the Clean Coal Technology program. Better utilization of these fund balances to support FutureGen will generate real benefits for America's energy security and environmental quality.

The budget request for FY 2007 includes $4.6 million to support **Alaska Natural Gas Pipeline** activities authorized by Congress in late 2004. Within the total amount of $4.6 million, $2.3 million will be used to support an Office of the Federal Coordinator and the remaining $2.3 million will support the **Loan Guarantee** portion of the program. Once constructed, this pipeline will be capable of delivering enough gas to meet about ten percent of the U.S. daily natural gas needs.

The budget request proposes to terminate the oil and gas research and development programs, which have sufficient market incentives for private industry support, to other energy priorities.

The Energy Policy Act of 2005 established a new mandatory oil and gas research and development (R&D) program, called the Ultra-Deep and Unconventional Natural Gas and Other Petroleum Research program, that is to be funded from Federal revenues from oil and gas leases beginning in FY 2007. These R&D activities are more appropriate for the private-sector oil and gas industry to perform. Therefore, this budget proposes to repeal the program through a future legislative proposal, although we will

faithfully execute current law until such time that Congress acts affirmatively on that legislative proposal.

The FY 2007 budget includes $124.9 million for a refocused portfolio of energy reliability and assurance activities in the **Office of Electricity Delivery and Energy Reliability.** This will support research and development in areas such as high temperature superconductivity, and simulation work needed to enhance the reliability and effectiveness of the Nation's power supply. This office also operates the Department's energy emergency response capability and led DOE's support effort during and after the Gulf Coast hurricanes.

The Department of Energy's **Power Marketing Administrations (PMAs)**, consisting of the Southeastern (SEPA), Southwestern (SWPA), Western Area (WAPA) and Bonneville Power Administrations (BPA), play an important role in meeting energy demands and fueling our economy. The electricity generated at Federal hydroelectric facilities and sold by the PMAs represents four percent of the Nation's electricity supply. In FY 2007, $229 million is requested for SEPA, SWPA, and WAPA to continue their activities.

The budget includes a proposal that sets the interest rate for certain new obligations incurred by SEPA, SWPA and WAPA paid to the Treasury for power related investments at the rate Government corporations borrow in the market. This rate is similar to the interest rate current law sets for BPA borrowing from the U.S. Treasury. However, this change applies only to investments whose interest rates are not set by law. These three PMA obligations due to Treasury currently outstanding will continue to retain existing interest rates. This is expected to result in a rate increase of less than 1 percent paid by some PMA customers. This change is expected to increase total receipts to the U.S. Treasury, beginning in FY 2007, by approximately $2-3 million annually.

BPA, unlike the other three PMAs, is "self-financed" by the ratepayers of the Pacific Northwest and receives no annual appropriation from Congress. BPA funds the expense portion of its budget and repays amounts it has borrowed from the Treasury as well as certain Federal investments with revenues from electric power and transmission rates.

The President's FY 2007 Budget provides, consistent with sound business practices required under the Federal Columbia River Transmission Act of 1974, that BPA will use any net secondary revenues it earns above $500 million annually to make early payments on its federal bond debt to the U.S. Treasury. Due to high energy prices, these net secondary revenues could be significantly higher than historical levels, especially in the next three years. The budget reflects $924 million from FY 2007-2016 from these higher-than-historical net secondary revenues. Absent implementation of the Budget proposal, BPA could run out of borrowing authority from the U.S. Treasury, and therefore limiting BPA's ability to invest in energy infrastructure, as early as 2011.

In addition, the FY 2007 budget provides that Energy Northwest will refinance a portion of its debt in calendar years 2006 and 2007. During FY 2006 and FY 2007, these deficit reduction proposals should allow $1.3 billion in additional U.S. Treasury borrowing authority to become available to BPA.

In the month since the FY 2007 budget was released, I have heard from Members of Congress and from various stakeholders concerning the Administration's budget proposal relating to BPA. I also have met with Members of Congress from the Pacific Northwest, from both parties, concerning that proposal; I have found those discussions to be helpful. I continue to believe that the Administration's proposal makes good sense for the Bonneville Power Administration and its customers. I have decided that a formal BPA rate case to address the proposal will not be initiated until July, and have committed to a further dialogue with members of the Pacific Northwest Congressional delegation and others in Congress concerning the proposal.

ADVANCING AMERICA'S NATIONAL SECURITY

The National Nuclear Security Administration (NNSA) continues significant efforts to meet Administration and Secretarial priorities by conducting fundamental and applied scientific research and development, and applying that science to promote national security. The FY 2007 budget proposes $9.3 billion to meet defense-related objectives. The budget request maintains commitments to the nuclear deterrence requirements of the Administration's Nuclear Posture Review (NPR) and continues to fund an aggressive strategy to mitigate the threat of weapons of mass destruction. Key investments include:

- Transforming the nuclear weapons stockpile and infrastructure while meeting Department of Defense requirements;
- Conducting innovative programs in the former Soviet Union and other countries to address nonproliferation priorities;
- Supporting naval nuclear propulsion requirements for the nuclear Navy;
- Providing nuclear emergency response assets in support of homeland security.

Weapons Activities: The United States continues a fundamental shift in national security strategy to address the realities of the 21st century. The Administration's NPR addresses a national security environment in which threats may evolve more quickly and be less predictable and more variable than in the past. The NPR recognizes the need to transition from a threat-based nuclear deterrent with large numbers of deployed and reserve weapons, to a deterrent consisting of a smaller nuclear weapons stockpile with greater reliance on the capability and responsiveness of the Department of Defense (DOD) and NNSA infrastructure to respond to threats. The NNSA infrastructure must be able to meet new requirements in a timely and agile manner while also becoming more sustainable and affordable. As part of the goal of a responsive infrastructure, efforts are underway to both modernize and consolidate the facilities and infrastructure needed for ongoing stockpile stewardship from the current Cold War configuration. The Department is reviewing recommendations from the recent Secretary of Energy Advisory Board (SEAB) study of the nuclear weapons complex and is formulating a strategic plan for achieving a responsive infrastructure that includes consideration of those recommendations. We intend to communicate the elements of that plan to Congress this spring.

The FY 2007 budget request of $6.4 billion for **Weapons Activities** strongly supports implementation of the responsive infrastructure and the ongoing program of work that forms the backbone of the nuclear weapons deterrent as well as a robust safeguards and security program. This includes all programs to meet the immediate needs of the stockpile, stockpile surveillance, annual assessment, and life extension programs. NNSA uses world-class science resources along with industry and academia in the areas of computation, simulation, experiments, materials science and analysis of highly complex weapons physics information. NNSA will continue to move ahead with the **Reliable Replacement Warhead** (RRW) program to establish the path forward for stockpile transformation. Success of the RRW program will, in turn, enable transformation to a more responsive infrastructure. The campaigns are focused on long-term vitality in science and engineering and on R&D supporting future DOD requirements, and include support of the first ignition experiment at the National Ignition Facility in 2010. These campaigns also represent a core investment in science and technology within DOE whose reach is felt beyond the national security arena. In addition, NNSA is implementing a responsive infrastructure of people, science and technology base, and facilities and equipment needed to support a right-sized nuclear weapons infrastructure.

Defense Nuclear Nonproliferation: Preventing weapons of mass destruction from falling into the hands of terrorists is one of this Administration's top national security priorities. The FY 2007 request of $1.7 billion strongly supports the international programs that are denying terrorists the nuclear materials, technology and expertise

needed to develop or otherwise acquire nuclear weapons. The FY 2007 budget request for Defense Nuclear Nonproliferation increases by 6.9 percent the amount appropriated in FY 2006. NNSA continues unprecedented efforts to protect the U.S. and our allies from threat, including $261 million for cutting-edge **nonproliferation research and development** for improved technologies to detect and monitor nuclear proliferation and nuclear explosions worldwide. There are also major efforts focused on potential threats abroad. The budget request includes $207 million to help complete the shut down of three Russian nuclear reactors still producing 1.2 metric tons of plutonium per year and replace them with conventional fossil fuel power plants. Also, this budget requests $290 million for construction of the U.S. **Mixed Oxide Fuel Fabrication Plant** at DOE's Savannah River Site in South Carolina. This facility will dispose of 34 metric tons of U.S. surplus plutonium.

A key breakthrough in nonproliferation efforts was recently achieved with the agreement at the Bratislava meeting in 2005 to allow the United States to help Russia improve security at a number of military warhead sites. Coupled with the continuing material protection and recovery programs, **Megaports** and **Second Line of Defense**, and the successful completion of negotiations on a liability protection protocol allowing the U.S. and Russia to move ahead on disposition of surplus plutonium, NNSA is making significant strides to reduce the threat from proliferation of warheads and weapons-usable nuclear materials.

Naval Reactors: NNSA continues to support the United States Navy's nuclear propulsion systems. The FY 2007 request is an increase of 1.7 percent over the FY 2006 appropriation level. This increase allows the Naval Reactors program to develop new technologies, methods, and materials to support reactor plant design for the next generation reactors for submarines and aircraft carriers, and continue stewardship and remediation for their facilities and sites to maintain outstanding environmental performance.

Safeguards and Security: The Defense Nuclear Security program is responding to a revision in threat guidance affecting **physical security** at all NNSA sites. Meeting the new Design Basis Threat will require further upgrades to equipment, personnel and facilities. NNSA is committed to completing these upgrades. The FY 2007 budget request for Cyber Security program activities, protecting information and IT infrastructure, is essentially level with the FY 2006 funding level. The FY 2007 Request includes funding for the **DOE Diskless Conversion** initiative. Meeting the post-9/11 security requirements has required a significant long-term investment, reflecting DOE's continuing commitment to meet these requirements.

ENSURING A CLEAN ENVIRONMENT

Just as important as advances in national security, energy independence, and scientific discovery are the Department's programs that protect human health and the environment by cleaning up Cold War legacy waste and improving management of spent nuclear fuel through the establishment of the national permanent nuclear waste repository at Yucca Mountain, Nevada. Like many of the Department's major programs, the environmental cleanup program and the nuclear waste repository activities have undergone management and programmatic reforms to further improve operations and implement effective and efficient practices.

To deliver on the Department's environmental cleanup commitments following 50 years of nuclear research and production from the Cold War, in 2002 the Environmental Management program underwent a major transformation that would enable the Department to perform its cleanup activities faster than previously estimated. Working in partnership with the public, states and regulators, the Environmental Management (EM) program has made significant progress in the last four years to shift away from risk management toward risk reduction. By the end of FY 2006, the cleanup of a total of

eighty-six DOE nuclear legacy sites will be complete. This includes the recently announced completion of Rocky Flats and the anticipated FY 2006 completion of Fernald and Columbus sites in Ohio. While encouraged by the results demonstrated thus far, the program continues to stay focused on the mission and is working aggressively to enhance and refine project management approaches while addressing the regulatory and legal challenges associated with this complex environmental cleanup program.

In FY 2007, the budget includes $5.8 billion to continue environmental cleanup with a focus on site completion, with eight sites or areas to be completed in the 2007 to 2009 timeframe. This budget request is reduced from the FY 2006 budget request of $6.5 billion primarily reflecting cleanup completion at some sites in FY 2006 and the subsequent transfer of post-closure work activities. As cleanup work is completed over the next five years at sites without a continuing mission, EM will transfer long-term surveillance and monitoring activities and management of pension and benefit programs to the Office of Legacy Management. For those with continuing missions, these activities will be transferred to the cognizant program office.

The $5.8 billion budget request remains focused on EM's mission of reducing risk by cleaning up sites–consequently also reducing environmental liability–and will support the following key activities:

- Stabilizing radioactive tank waste in preparation for disposition (about 30 percent of the FY 2007 request for EM);
- Dispositioning transuranic and low-level wastes (about 15 percent of the request for EM);
- Storing and safeguarding nuclear materials (about 15 percent of the request for EM);
- Decontaminating and decommissioning excess facilities (about 20 percent of the request for EM); and
- Remediating major areas of our large sites (Hanford, Savannah River Site, Idaho National Laboratory, and Oak Ridge Reservation) (about 10 percent of the request for EM)

One of the significant cleanup challenges is the management and treatment of high-level radioactive liquid waste at the **Hanford Waste Treatment and Immobilization Plant** (WTP). In FY 2007, $690 million is proposed for the WTP project. The plant is a critical component of the program's plans to clean up 53 million gallons of radioactive waste currently stored in 177 aging underground storage tanks.

By June 2006, the U.S. Army Corps of Engineers is expected to complete an independent cost validation, deploying more than 25 professionals experienced in cost estimating, design, construction, and commissioning. The Department plans to utilize the results from several reviews to validate cost and schedule for this project.

The Department, while responsible for the cleanup and disposal of high-level radioactive waste generated from the Cold War, is also responsible for managing and disposing of commercial spent nuclear fuel in a safe and environmentally sound manner. The latter responsibility is the mission of DOE's **Office of Civilian Radioactive Waste Management** (RW).

The Nation's commercial and defense high-level radioactive waste and spent nuclear fuel will be safely isolated in a geologic repository to minimize risk to human health and the environment. The FY 2007 budget requests $544.5 million to establish a geologic repository at **Yucca Mountain**, Nevada. This Administration is strongly committed to establishing Yucca Mountain as the Nation's first permanent repository for high-level waste and spent nuclear fuel. Licensing and developing a repository for the disposal of these materials will help set the stage for an expansion of nuclear power through the President's GNEP initiative, which could help to diversify our energy supply and support our economic future. Permanent geological disposal at Yucca Mountain offers the safest, most environmentally sound solution for dealing with this challenge.

To further advance the Administration's commitment to the establishment of Yucca Mountain, the Department intends to submit to Congress legislation to address land withdrawal, funding and other issues that are important to the program's success.

As the Environmental Management program completes cleanup of sites throughout the DOE complex, management of post closure activities at these sites will transfer to the **Office of Legacy Management** (LM). In FY 2007, $201.0 million is proposed to provide long-term surveillance and maintenance, long-term response actions, oversight and payment of pensions and benefits for former contractor retirees, and records management activities at closure sites transferred to LM. The majority of funding ($122.4 million) is associated with the transfer of post closure responsibilities and funding of three major sites from EM to LM in FY 2007. These sites are: Rocky Flats, $90.8 million; Fernald, $26.5 million; and a group of sites known as the Nevada off sites, $5.1 million. The cumulative effect of these three transfers results in a 150 percent increase in the Legacy Management budget matched by a corresponding decrease in the Environmental Management budget.

PROMOTING CONSERVATION

I would also like to briefly mention to you the work that the Department has been doing to promote energy conservation. As part of our "Easy Ways to Save Energy" campaign, senior leaders in the Energy Department, including myself, traveled the country to help American families and businesses better deal with limited supplies and high energy prices. We went to places like Home Depot and Lowe's to showcase simple, readily-available energy savers that Americans can put into use right now. The campaign also includes Public Service Announcements--in English and Spanish--which were sent to 4,500 stations. In addition, we have distributed more than 20,000 EnergySavers booklets, with tips for saving energy and money in the home. We've also dispatched teams of energy efficiency experts to help identify energy-saving options at large federal facilities and private industrial plants.

IMPROVING MANAGEMENT FOR RESULTS IN OUR LIFETIME

Underpinning and supporting all of the programs above, the Department of Energy has continued to make strides in meeting President Bush's challenge to become more efficient, more effective, more results-oriented, and more accountable for performance. Over the past four years, the President's Management Agenda (PMA) has been the framework for organizing the Department's management reform efforts.

To better manage human capital, the Department implemented a performance management system to link employee achievement at all levels with mission accomplishment. In FY 2006, DOE will publish, communicate and implement a revised five-year Human Capital Management Strategic Plan as well as a formal leadership succession plan. The Department completed six competitive sourcing studies and has three others underway. The completed studies encompass over 1,300 Federal and 1,000 contractor positions with $532.6 million in expected savings. During FY 2007, DOE anticipates studying approximately 100 to 300 positions.

In FY 2006 and FY 2007, DOE will expand the availability of financial data in support of decision-making by continuing to implement the Integrated Management Navigation (I-MANAGE) system, specifically in the areas of budget and procurement through the Integrated Data Warehouse (IDW). The Department continues to apply Earned Value Management principles to each of its major information technology investments. In addition, DOE is partnering with other government agencies to develop a standardized and integrated human resources information system, and to develop a consolidated grants management system.

The Department continued its effort to institutionalize multi-year planning and strengthen the link between program performance and resource allocation decisions. The

Program Assessment Rating Tool (PART) continues to be used to promote improved program performance. For programs that have not formally been reviewed by OMB, the PART process has been used for internal self-assessment.

A number of important milestones were reached in Real Property Management including the approval of the Asset Management Plan (AMP) by the Deputy Secretary. The AMP outlines an overall framework for the strategic management of the Department's $77 billion portfolio of Real Property Assets. Additionally, the 20,000 real property records in the Facilities Information Management System, the Department's repository of real property information, were populated and updated as required by the Federal Real Property Council for support of the Federal Real Property Profile. This information will be used to support real property management decisions department-wide.

As these examples indicate, the Department of Energy is using the PMA to address its many management challenges. The Department is working to become more streamlined, more efficient, and more results-oriented in FY 2007.

Conclusion

The Administration recognizes that energy is central to our economic and national security. Indeed, energy helps drive the global economy and has a significant impact on our quality of life and the health of our people and our environment. The FY 2007 budget request balances the need to address short-term challenges while planning for long-term actions. The request evidences the fact that our basic science research must remain strong if we are to remain competitive with our global partners. The request contains bold new initiatives in nuclear, biomass, and solar energy. It continues the President's strong commitment to clean coal, hydrogen, and fusion. The request honors our commitment to deal with civilian nuclear waste, as well as legacy waste from the Cold War, and to further our already successful nonproliferation programs in order to help ensure a safer world for generations to come.

CHAIRMAN BARTON. Thank you, Mr. Secretary. The Chair would recognize himself for the first five minutes of questions. Mr. Secretary, in the Energy Policy Act, we created a new Federal partnership with private industry to go out and retrofit and rebuild our existing coal plants, co-powered electricity generation plants called the Clean Air Coal Program. The budget that the President and you submitted doesn't fund that at all. These are the oldest plants in the country. Their environmental emissions have been grandfathered on at least two occasions. Why would we not want to fund a program that would retrofit or rebuild these plants and bring them up to new environmental standards, keeping jobs and power generation in the existing locations?

SECRETARY BODMAN. Mr. Chairman, this is a response that you are going to hear, I think, several times during the course of the morning. We have had a lot of tough choices to make. I talked about, in my opening statement, the increases in funding for the various science efforts, for the Advanced Energy Initiative, for the Competitiveness Initiative, which are the centerpiece of what we are trying to get done. This Department proposes a flat budget year to year, approximately, and

therefore to the extent we have increased funding in one area, it has to come from somewhere, so it had decreased it in other areas.

Now, the fact that the energy bill authorized programs, there were certain programs that we felt did not have the same priority as those that are in the budget and it was strictly that.

CHAIRMAN BARTON. Well, why should we look at this GNEP program that is going to cost billions and billions of dollars and may or may not be successful. Why should we even look at authorizing that if the Department is not going to do something that we absolutely know will be cost effective, will keep jobs in America, and will make the air cleaner in America right now? I just don't understand it.

SECRETARY BODMAN. Well, Mr. Barton, we have a different view, that is all. I think that the GNEP program and presumably, I am going to get asked about that later on, but the GNEP program is intended over a three-year period to arrive at a position of a go or no go decision that would enable us to decide whether this approach makes sense. This is a research investment of about a billion and a half dollars that we think is crucial to creating a new source of emissions-free electricity in our country. It is the only way that I see we are going to get there, from an electricity standpoint, and so I would consider that a higher priority for those reasons.

CHAIRMAN BARTON. Well, I don't. I am just going to tell you, we just have a fundamental difference of opinion.

SECRETARY BODMAN. I am not shocked at the fact that you and I don't agree on that and it probably won't be the only one we don't agree on.

CHAIRMAN BARTON. That, to me, is such a win/win, to retrofit or rebuild these existing coal fire power plants. We get a double win. I really, you know, I will prepare a letter and get as many members of this committee to sign it to send to the appropriators asking that they fund the new coal program, and will find some money in your budget that this committee doesn't think is as high priority, and we will find a way to fund it and we will see what the appropriators do. We just have to honorably agree to disagree.

SECRETARY BODMAN. Oh, I understand.

CHAIRMAN BARTON. Well, let me go back to the nuclear issue. Looking at this new GNEP program, what is your plan to fund Yucca Mountain? Are you and the Administration willing to propose and support legislation to address the funding challenge at Yucca Mountain and find us a permanent fix?

SECRETARY BODMAN. Yes, sir. There are several things going on with respect to Yucca Mountain. As you are aware, I have been in this job a year. We have had an opportunity to evaluate it. One of the first

decisions that we have made collectively is to change the approach to the development of Yucca Mountain to a, if you will, a clean operation. Heretofore the decision has been made to transport nuclear fuel to Yucca Mountain and then to move it at Yucca Mountain to new storage devices. We believe that it is simpler and more economically effective to put it in a single canister or a device on the site at the nuclear plant, transport it to Yucca Mountain and then not remove it from the site as one goes through the various stages arriving at an ultimate disposal. So that was the first decision.

Secondly, we have not managed this program very well. I think that is an understatement. Everyone, I think, would agree with that and we are attempting to do a better job of managing the program. Thirdly, we have had help. The Department of the Interior's folks in the geological service were found to have written some e-mails during the course of the year that were reflective of a bad attitude and a poor culture, if you will, with respect to the quality assurance efforts of this initiative. That has really damaged the core, if you will, of the Yucca Mountain program. We have new leadership in the program that I think has taken on the task of moving this program forward. We are very committed to it.

Whether or not GNEP goes forward, we have to fix these issues, so we have, I think I mentioned, $544 million in there and that, I believe, will be adequate to deal with what we need. In addition, there will be legislation to get to the point that you raised and the legislation will be forthcoming soon, I would guess within a month, that will deal with land withholding; it will deal with financial reform. It may deal with interim storage; that still, I think, remains up in the air, but there are a number of issues that will be taken care of, we hope, through the legislative proposal that we will make with respect to Yucca Mountain.

CHAIRMAN BARTON. Thank you, Mr. Secretary. The gentlelady from California, Ms. Capps, for six minutes.

MS. CAPPS. Thank you, Mr. Chairman, and good morning, Secretary Bodman.

SECRETARY BODMAN. Good morning.

MS. CAPPS. Last month the President announced his 2007 budget. Unfortunately, in my opinion, it again demonstrates the misplaced priorities of this Administration for me, whether it is health care or education or energy, the President's policies continue to show how out of touch his Administration is. The President did rightly point out, in his State of the Union address and I quote, that "America is addicted to oil." He also said the best way to break this addiction is through technology, yet in the budget the President is not going to fund breakthrough technologies, he is simply going back to the funding levels of the Clinton Administration.

For example, the President has requested $1.176 billion for the Energy Efficiency and Renewable Energy Program. That is the same amount that was appropriated in fiscal year 2001. While the programs highlighted in the State of the Union received some increases, they are not significant enough to break our oil habit. Prices for natural gas, crude and gasoline increased dramatically in the wake of infrastructure damage caused by Katrina and Rita. I am still concerned, a lot of us are, that production capacity has not been restored, as well as the readiness of the Gulf Coast region for the 2006 hurricane season and I say that as part of a bipartisan delegation led by our Speaker, down to the Gulf Coast area this past weekend.

According to the EIA, the number of rigs in the Gulf is 20 percent lower than before the hurricane hit, and MMS says that a hundred pipelines were damaged by the hurricanes. As a result, 255,000 barrels per day of crude oil and 400 million cubic feet of natural gas will not be restored prior to the start of the 2006 hurricane season. I would like you to talk for a bit about your Department's efforts on monitoring repairs and what are the plans for assistance in preparation for the coming hurricane season? Thank you.

SECRETARY BODMAN. First of all, I think the numbers you gave are correct, best I know.

MS. CAPPS. Thank you.

SECRETARY BODMAN. Those hurricanes did very severe damage to the infrastructure. Interestingly enough, the closer you got to shore, the more the damage, because the wave action, I guess, they got higher the closer one was to shore. And those are the areas where we have not seen recovery, Congresswoman, to the same degree further offshore where we had newer and more effective devices. I am not trying to draw a line between here and my Department and the Interior Department, that is their focus, the MMS offshore.

MS. CAPPS. Right.

SECRETARY BODMAN. That is what they do. And having said that, I am somewhat familiar with what has gone on and I think the industry has responded quite well. These are private sector owned rigs, they are private sector owned production platforms, they are private sector owned refineries, private sector owned transmission lines, and private sector owned pipelines to get the refined product up to the marketplace. You are looking at me as though you don't agree.

MS. CAPPS. Well, I agree they are privately owned, but they get a lot of incentives from the Federal government and we are much less--

SECRETARY BODMAN. Well, they have enormous incentive. Looking at the price of oil and gas in today's world, I can assure you, ma'am, that they have enormous incentive to get the rigs fixed, to get the

pipelines fixed, and to get the transmission lines fixed. All of this energy is extremely expensive and the profit motive that these private companies have is unbounded at this point in time, so I can assure you, they are working very hard on it. Now, I can further assure you that our folks, I am very proud of the group that we had that worked hard during both episodes, both Katrina and Rita. We had a whole group of us in the office over the Labor Day weekend, because that was when Katrina hit.

MS. CAPPS. Right.

SECRETARY BODMAN. And they were involved and, I think, we got very good marks on terms of their accomplishments.

MS. CAPPS. Right. You are talking about Labor Day weekend, but, and I only have a minute left. I don't mean to interrupt you, but I am interested in demonstrable results of monitoring repairs and assistance in preparing for the coming hurricane season.

SECRETARY BODMAN. Offshore rigs, ma'am?

MS. CAPPS. Whatever you feel responsible for. The end result.

SECRETARY BODMAN. Well, the issues in terms of production, largely has do with production, which is an offshore question and I thought I explained it, so I wasn't clear.

MS. CAPPS. Right.

SECRETARY BODMAN. A number of those rigs, of those production platforms, will not be restored. The ones that are out now, by and large, it is my guess, I don't know this because I don't work with them every day; this is something the Interior Department does, but by and large, those rigs, the production platforms that are out are not going to be put back because it is not economically desirable to reinvest to put those facilities back in place.

MS. CAPPS. Your Department does concern itself with energy.

SECRETARY BODMAN. Yes, it does.

MS. CAPPS. And there is a deficiency in energy now coming there that is apparently available energy. Are there any plans for what is going to happen now?

SECRETARY BODMAN. On what is going to happen now on the Gulf Coast?

MS. CAPPS. Yes.

SECRETARY BODMAN. Well, the transmission lines have been restored, the pipelines have been restored, the refineries have been restored so all of that -- we monitor it, we are in frequent touch with the people who do that and all of that is back in good shape. I think the last, we have had three refineries have remained offline and I believe within the next couple of weeks they are due to become online, say by the end of March. And so all of that is up and functioning.

MS. CAPPS. I am over time, but I just want to get from you the high cost of energy related to what is available there.

SECRETARY BODMAN. Well, the high cost of energy, Congresswoman, is a reflection of the high cost of oil throughout the world. It is a fact that for the first time in my lifetime that the suppliers of oil in the world are having difficulty keeping up with the increasing demand. We have seen enormous demands in China and in India, in particular. As our economy has recovered, we have seen increases in demand here, as well. But the real big percentage growers are in China and India, as we see them coming on board and so that is what is driving the price of oil and that is what is reflected in the prices that your constituents are paying, in my opinion.

MS. CAPPS. I realize I have gone over my time, but it seems like the total in natural gas rigs drilling in the Gulf of Mexico for the week are about 20 percent lower than they were in early August.

SECRETARY BODMAN. I don't doubt that. A lot of rigs were destroyed during the course of the hurricanes.

MS. CAPPS. And I guess that begs the question--but I am over my time. We do have another hurricane season coming, so a foreboding.

SECRETARY BODMAN. I am very concerned about it. I can't tell you, I can't give you a magic wand. I wish I had one. There is no--

MR. HALL. [Presiding] Okay, we have now passed the time.

MS. CAPPS. Thank you.

MR. HALL. The lady is so brave and such a wonderful member. I hate to tap the gavel at her, but we have a long way to go and I thank you. I recognize Mr. Bass from New Hampshire for six minutes.

MR. BASS. Thank you, Mr. Chairman. Mr. Secretary, I want to thank you for coming to New Hampshire a couple weeks ago. I think you saw, when you were there, some of the impressive energy work that is being done in our State and I expect in the near future there would be a lot more to show you and hopefully you will be able to make a return visit soon.

I have two questions for you, sir. First, Section 932 of the Energy Policy Act authorized the biomass and bio-refinery system R & D program at $213 million for 2007. The section specifies funding of integrated bio-refinery demonstrations and incorporate "a wide variety of lignocellulosic feedstocks including any portion of a plant or co-product from conversion including trees and forest residues." Now, I am paraphrasing here. There is an additional mandate that the Secretary "ensure the geographical distribution of bio-refinery demonstrations."

Other sections of the Energy Act and existing law provide industrial biomass and bio-refinery R & D commercialization and demonstration support. All of these sections should apply to cellulosic biomass on an

even level with the traditional grains or other sources. You have heard me ask you this question before, obviously, a couple weeks ago. My question is would you describe to us briefly the Department's commitment to diversity in feedstock and geography of any new bio-refinery?

SECRETARY BODMAN. Congressman, first we are definitely committed to a variety of feedstock; I think you are aware of that. You and I chatted about it. That is part of the President's proposal in terms of the biomass effort, research effort, which is to develop technology that would enable us to use a wide variety of feedstock and cellulosic materials of the sort that you just described and that to the extent that we are able to move forward with funding support for the bio-refineries, clearly we will follow the law and we will pay attention to geographic dispersion. I am unaware of this particular Section 932 and I would like answer that for the record, if I may.

MR. BASS. That is fine. If I could just follow up. There is a particular reason why we need to have a bio-refinery, some ethanol capability in the Northeast. As you well know, about 12 percent of all of the content of gasoline is, currently in some counties in the Northeast, MTBE, and MTBE is going to be out of the market fairly soon and we are not going to have any alternative to oxygenate in the area and it is hard to transport ethanol from elsewhere in the country, so we need that not only because of diversity of source, but also because we are going to have a critical shortage of oxygenate stock in a relatively short period of time.

Mr. Secretary, on another issue; in the energy bill, Section 206 authorizes the only Department of Energy managed consumer focused incentive program for renewable energy. Increased use of smaller scale biomass solar and geothermal energy could significantly displace heating oil, natural gas, and electricity, and New Hampshire is 86 percent dependent on heating oil and propane. We are second in the country behind Maine. The appliance and systems that convert these fuels for use have had dramatic improvements in the past few years, but they are expensive and there are no central heating type systems available in the United States at all, not a single manufacturer.

There is a rebate program that your Department could authorize, fund, and run that would provide rebates for solar, wind, and biomass, but I notice in the Department's budget request that there is no funding at all for Section 206. I am wondering if you have had a chance to look at this section, if you have any comments on it?

SECRETARY BODMAN. I have looked at it, you and I talked about it when I visited and I have a team working on it and I do not have a

specific answer at this point in time, but I would be happy to respond to you promptly, to say within the month.

MR. BASS. Fair enough, Mr. Secretary, and I just want to say that energy, as you know, is not about philosophy or political party, it is about region and I think we have an opportunity with the energy bill to diversify not only our energy consumption, but our energy production around the country, and consumption of biomass in the Northeast is critically important and production of biomass, as well, perhaps more than in any other part of America, so I really appreciate your interest and attention to this matter and I will look forward to hearing from you and I yield back.

MR. HALL. Thank you, sir. The gentleman yields back. Ms. Solis, the gentlelady from California recognized for five minutes.

MS. SOLIS. Thank you, Mr. Chairman. Yes, my question for you, Mr. Secretary, you have already heard our concerns about Hurricane Katrina and the devastation that it had and the power outages that we are still seeing there at the Gulf Coast. We just returned from a CODEL with Mr. Hastert and our Leader, and we realized that many of our communities down there still have no level of electricity, but more importantly, many of the rigs, the oil rigs are down. And the last time I think you came here, we spoke with you regarding a discussion we had, whether oil rigs facilities currently could withstand hurricane level three, four, or five, and I would like to know what steps DOE is undertaking now to ensure that the facilities that are going to be rebuilt, whether they are privately owned, will meet some set standards that the Federal government will set by your agency?

And in addition, I would like to know, as you can imagine, the lack of power is hampering the construction there and what are we doing to assist these communities so that they can get moving quickly to have their energy restored? We went through different parishes there that have no electricity, no sewage, debris is still remaining there. And we are finding that that whole effort is very slow in its process, and I am wondering what DOE is doing to help coordinate with FEMA, with all the other agencies?

SECRETARY BODMAN. First of all, to answer your first question, to my knowledge, we do not have responsibility for the specifications of oil rigs that are used offshore or onshore, for that matter. That is not something that we do, to my knowledge. I will be happy to respond to you on that and do some more work on that, but that is my preliminary response.

MS. SOLIS. That is somewhat incredible given the fact that we have lost so much production and it is impacting us nationally.

SECRETARY BODMAN. Well, we have lost a lot of production but most of the production that we have lost at this point in time, we now have, I think it is 85 percent of the gas that was shut in is now back on line and functioning. I think it is 75 percent of the oil. Frankly, it is that or vice versa. I have forgotten which. One is 75 and the other is 85. By and large, the shut in material, as of today, is a function not of rigs, but of production platforms, and the production platforms were destroyed. The production platforms are the devices that are there that obviously produce the material and send it ashore and that is what was destroyed.

These are old fields, the fields that tend to be closer to shore tend to be older. They tend to be depleted and it was not economically viable to reinvest and to rebuild those and so the companies haven't done it. They are drilling wells elsewhere. They are drilling further offshore and they are developing more reserves. They are doing that and it is, I believe, something that we will see as the year unfolds, provided that we do not have another hurricane that destroys more rigs.

MS. SOLIS. We will know in less than three months.

SECRETARY BODMAN. Well, but I can't help that. I mean, that is not my job. I have enough to do and that is not one of them, but in terms of the electricity, the utilities--

MS. SOLIS. What about the electricity, yes.

SECRETARY BODMAN. --and we work very closely with those utilities. The utilities did not install the electricity, particularly in New Orleans, to some of the parishes, to some of the districts, I guess. I am not sure of the terminology.

MS. SOLIS. Parishes.

SECRETARY BODMAN. Because it was not clear that these homes were going to be rebuilt and so it would have been a matter of rerunning the wires or the lines in there and then having them destroyed and so until a master plan is developed, the electric utilities have not responded in order to wire up some of these--

MS. SOLIS. But there are some parishes where there is electrical lighting on the streets and yet, no household has any form of electricity. We actually walked into a parish and saw that, so I don't know what the DOE is doing to help incentivize our public utilities groups to ask them to move forward.

SECRETARY BODMAN. It is not a matter of incentivizing them because we don't incentivize them. We do work with them and they have been very responsive, to my knowledge. I can't answer that specifically, but we will do some more homework and we will give you an answer.

MS. SOLIS. I would like to hear back from you.

SECRETARY BODMAN. Sure, I would be happy to.

MS. SOLIS. Thank you, Mr. Secretary.

MR. HALL. All right, the gentlelady yields back her time. The Chair recognizes Mr. Shimkus, and recognizes him as the Chairman and to ask whatever questions he wants. And I saved you for one more question about the ultra-deep, Mr. Secretary.

SECRETARY BODMAN. I am sure that will be forthcoming, Mr. Hall.

MR. SHIMKUS. [Presiding] Thank you, Mr. Chairman. I was just told on the floor that they think there is only one vote, so I have cast my vote and so we are going to continue to move on until people come back. Well, it depends on if you get back here in time. I know how slow you are. But I am going to get my wind and recognize myself for six minutes. Thank you for being here and I am happy to be here. I have rushed over here to keep the process moving.

SECRETARY BODMAN. Thank you, sir.

MR. SHIMKUS. And keep the hearing in order. Some initial questions have already been raised about Yucca Mountain. I would like to follow up on that by asking, three years since we have passed the Nuclear Waste Policy Act, by the time our Nation's first repository opens, and I have been a big proponent of that, been pushing for it through all the budgetary stresses and strains; by the time it opens, we will have more nuclear waste than Yucca Mountain can hold under the provisions of the Act. Under the Nuclear Waste Policy Act, the Secretary is obligated to report to Congress beginning in 2007 on the need for a second repository. Has the Department begun this evaluation?

SECRETARY BODMAN. Yes, we have. We have begun, as required by the Nuclear Waste Policy Act. We recognize that we are required to deliver a report to Congress between January of 2007 and January of 2010, so we do have a window in which we are supposed to respond. We are currently in the planning phase, if you will, for the development of that report and we will be examining a number of States as potential sites for repository sites.

MR. SHIMKUS. Let me ask you a follow-up question. We had a chance to meet two days ago and I really appreciate the access you gave many of the Members. How does this whole debate affect the expansion of nuclear power in the country?

SECRETARY BODMAN. Oh, Yucca Mountain, in my judgment, is necessary.

MR. SHIMKUS. Almost critical.

SECRETARY BODMAN. Is necessary; it is potentially, I guess you could say the most critical matter. I mean, I think there are other issues that are at work, as well, but it is right at the top of the list when you talk to the utility industry. It's the fact that they have to have a way of managing their spent fuel. So I don't know how you--I suppose for one

utility, it might be the very top priority and for another it might be somewhat less, so but for everybody there is no doubt that it is a very important matter.

MR. SHIMKUS. Well, we will fall back to that debate on on-site storage, who takes over responsibility, the taxpayers' dollars for that or an interim storage site?

SECRETARY BODMAN. In terms of interim storage, our general counsel tells me, and he is quite definite about it, that we are not permitted, we, the Department of Energy, are not permitted to take fuel into an interim storage situation until we get a license for Yucca Mountain. Once we have a license for Yucca Mountain, then the Act permits us to take that and deal with interim storage. In terms of interim storage, we have an open mind on that. I mean, that is not something that we ruled out, but legally we can't do it at this point in time and we are focusing our efforts on trying to get Yucca Mountain done.

MR. SHIMKUS. Well, if I may jump in, because you are talking about the license issue.

SECRETARY BODMAN. Yes.

MR. SHIMKUS. When are you going to file a license application with the Nuclear Regulatory Commission?

SECRETARY BODMAN. We are going to develop a schedule for you, we will have that the early part of this summer, that will deal with this matter. As I mentioned before, I don't think you were here, sir.

MR. SHIMKUS. Oh, point that out to everyone.

SECRETARY BODMAN. Sorry, I was just trying to be responsive. The issue that we have been dealing with--now I have lost my train of thought. You got me completely--

MR. SHIMKUS. I have been successful.

SECRETARY BODMAN. No, no.

MR. SHIMKUS. The license application.

SECRETARY BODMAN. Yes, the issue that we have been working on has to do with the efforts of the USGS employees and the e-mails they sent and it really undermined the whole attitude and approach, if you will, the culture of that operation and we have been rebuilding that carefully and thoughtfully. We have a new leader; he is doing a very good job and I am comfortable with it and he is the one that has initiated the leadership to shift the emphasis to a so-called clean canister approach to managing Yucca Mountain, and they are now completing the design of that. The design will be competed and we will have a program that we think will stand your scrutiny available this summer.

MR. SHIMKUS. A great thing about being on this committee, for me, is Illinois is really an energy important State, whether it is renewable fuels, whether it is oil wells, coal reserves. We are a big nuclear power

State, so I have been very fortunate to be well-positioned. I want to shift a little bit on the coal issues, as you could have guessed, and ask about in the five-year budget proposal we talked again about the FutureGen and really, the great support in this cycle. The question is for the outlying four years do you think the remaining $203 million is enough to keep FutureGen on schedule?

SECRETARY BODMAN. As best I can tell that it is, sir. No, you are talking about what the five year plan?

MR. SHIMKUS. Correct. You have got $54 million for the first year and then $203 million would be for the final four years of the five-year plan and the question is, is that $203 million, do you think will meet the needs to keep the project moving forward at the pace that we would like to see it?

SECRETARY BODMAN. No.

MR. SHIMKUS. Then what should it be?

SECRETARY BODMAN. Well, we really need the total of $750 million; that is what is committed. There is an organization that has been pulled together called the Industrial Alliance or the FutureGen Alliance, it is a group of seven companies; four U.S. companies, three non-U.S. companies; two Australian, one Chinese; and they have committed to put up some $250 million. The Department is supposed to put up $700 million and I don't recall, Mr. Shimkus, what amount has been appropriated in the past, but that is what we are going to need over a period of time.

MR. SHIMKUS. And I will end with this statement and then yield to one of my colleagues. It is our observation that there is not enough in the CCPI for a third round of solicitations. Can you have your staff just address that to me and see if that is a proper analysis?

SECRETARY BODMAN. No, I can tell you that now. I mean, the CCPI is only, I think it has a $5 million amount in there and the reason for that is that the CCPI has been a long-term demonstration program and we have sizeable balances that have not been spent from years gone by in commitments that have been made to various, as we have gone out to competitions and therefore the folks at OMB and I think, frankly, they were right in this instance, that they said look, until we start getting some of this money spent and committed, why put more money in and so that has really been, it has been that goal, so we need to look harder at making sure the projects that we did, I think the new one will be the third round.

MR. SHIMKUS. Right.

SECRETARY BODMAN. So we have two rounds and we need to make sure that those are moving forward in a way that makes sense and that is what we are undertaking at this time.

MR. SHIMKUS. Great. Thank you. And I didn't mean to cut you off, but I want to get to my colleague, Mr. Upton, for six minutes.

MR. UPTON. Thank you, Mr. Chairman.

SECRETARY BODMAN. Mr. Upton, nice to see you, sir.

MR. UPTON. Mr. Secretary, welcome back. I have enjoyed your leadership for the last year and I look forward to a good number of years remaining. I just want to say, and I am sorry my friend from New Hampshire left to go vote, as I just did, but before you go back to New Hampshire we want you to come west to Michigan, so we look forward to that.

SECRETARY BODMAN. I will bear that in mind, Mr. Upton. Thank you, sir.

MR. UPTON. I have two nuclear facilities there in my district and I know that we are looking forward to walking you through those facilities as they continue to operate.

SECRETARY BODMAN. Thank you, sir.

MR. UPTON. I didn't hear the beginning of your answer to Mr. Shimkus as I was running back to vote, as it related to Yucca Mountain. Mr. Towns and myself helped carry the water, I guess, in the early 1990s for that legislation. I am very supportive of your efforts to open Yucca Mountain and I don't know if you actually gave an optimistic date or a date at all in terms of when you think that facility might be opened to receiving fuel.

SECRETARY BODMAN. I didn't give any date, Mr. Upton, and the reason is, what I did was to explain. We have had a very long and tough year in dealing with Yucca Mountain; you are fully aware of that, with the USGC situation. Our contractor, I think it is fair to say, did a less-than-wonderful job.

MR. UPTON. I heard you say that in response to Chairman Barton.

SECRETARY BODMAN. And frankly, we in the Energy Department didn't do as good a job as we should have done and overall, we are trying to do a better job of managing our responsibilities in the Energy Department. I think we are getting better. I can't tell you we are great, but you know, we are getting better. And this one is an embarrassment. This has been around for a long time and every time I use the word Yucca Mountain, people cringe and so there is a real issue there. We have a new leader, he is doing a very good job of looking hard at what the history has been and what the future should be and first of all, he is the one that articulated this new approach to developing the clean canister approach to managing this, which means you would only use one device rather than multiple devices and it would be simpler, and therefore he is redesigning it and he is going to have a schedule. He will

have it this summer and we are going to lay that out for you; as soon as I have it, you will have it.

MR. UPTON. Great, and I look forward to that. I saw a report in the last 24 hours and I tried to put my hands on it in the last hour and I couldn't find it again. It related to the oil supply and I guess an upcoming meeting by OPEC in the next number of days.

SECRETARY BODMAN. Well, they just had it. They just finished yesterday, I believe.

MR. UPTON. Did they? There was a concern as I read it. Maybe it was because I was looking at today's papers instead of yesterday's, but there was a concern, I guess, expressed by the Saudis or some nations within OPEC that there might, because the oil supply stocks are higher than what they were anticipated to be, there was some worry that the price per barrel might drop dramatically to perhaps as low as $40 a barrel from, in essence, the $60. Now, what are your projections as to where things are at, particularly, at least in my district, and I expressed this to you earlier in the week, we have seen gas prices spike by about $.50 a gallon just in the last three weeks. We were about $2.55 in Kalamazoo, Michigan earlier this week.

SECRETARY BODMAN. First of all, Mr. Upton, one of the privileges I have in this job is not making forecasts. I don't make forecasts.

MR. UPTON. Well, your people do.

SECRETARY BODMAN. Well, we do have a part of the Energy Department, the Energy Information Agency, EIA, has been organized to be a nonpartisan evenhanded approach--

MR. UPTON. I used to ask Mr. Greenspan when he appeared before our committee if it was the right time to refinance.

SECRETARY BODMAN. And what did he tell you?

MR. UPTON. He laughed. Same response you are giving now.

SECRETARY BODMAN. Yes. Anyway, their forecast for oil prices is that it is going to be a little higher this year than it was last year.

MR. UPTON. Again exceed $3?

SECRETARY BODMAN. But that over time there will be a gradual diminution of oil prices, that is to say over a 10-year period. I think that is what their forecast is and the theory of that is, I believe, is that it is taking the world oil industry a long time to recover and to invest at the rate that is needed in order to supply the oil that is required throughout the world. This is the first time in my lifetime that the suppliers are having enormous difficulty keeping up with demand. They just simply can't do it today. I mean, there are various discussions about which country can do what to whom, but when you look at the total amount, the totality of oil available, it is very close to the supply demand.

MR. UPTON. I understand.

SECRETARY BODMAN. And that is why every time there is a problem in Nigeria or potential problem elsewhere, Russia or wherever it may be, that is why you see these spikes in prices.

MR. UPTON. I want to get my last question in before my time has expired. Recently, Mr. Doyle and I have introduced bipartisan legislation that is cosponsored by dozens of our colleagues, to expand ethanol, to require by 2012 a 10 percent ethanol mandate as part of the, at the pump. And I have talked to the big three automotive sector, current automobiles, whether you drive a 1996 or a 2006 vehicle can use that type of blend and we are hoping to continue to get more cosponsors to this legislation. Our estimate is that it will save 320 million barrels of oil that we won't otherwise have to import by moving to ethanol. I know in our State, which is another reason I would like you to come visit, we have four ethanol plants just about ready to operate, up and running; another one down in Indiana in South Bend. Another plant that has been permitted, as well.

SECRETARY BODMAN. Pardon me, these use corn as feedstock, right?

MR. UPTON. Corn. But as I understand, sugar is another source. We have sugar beet, but I don't know if that is permissible with ethanol.

SECRETARY BODMAN. Sugar beets are not a very good, as I understand, they are not a very good raw material.

MR. UPTON. That is on the other side of the State, that is why I want you to come to the west side. But I just want to know, I appreciated the President's comments in the State of the Union. I don't know if you have taken a view on our bill, H.R. 4774, but I would appreciate your comments on ethanol.

SECRETARY BODMAN. Well, ethanol is a very important matter. The President has proposed a 50 percent increase in the budget for cellulosic ethanol. The one specter that is out there, I believe, is that as we use more and more corn to produce ethanol, and we are now up to, I think, 14 percent or so of the corn that is grown is now being grown for ethanol. It is some significant factor and so as that number increases, we are going to see increase in price. We are already seeing increase in the price of corn and so it will follow through in terms of food prices and so forth, we are going to start to reach a limit; I don't know where it is. It may be at this 10 percent number, whatever it is, but 10 percent is still 20 billion gallons, 22 billion. Pardon me, it is 14 billion gallons. We use about 140 billion gallons a year, so it would be about 14 billion gallons. That is somewhat higher than I have heard, the 10 to 12 billion gallons a year is what I have understood to be the limit before we start getting into real issues with respect to land available.

MR. UPTON. Well, I have Kellogg's, too, so I appreciate your comment.

SECRETARY BODMAN. Yes, sir.

MR. UPTON. If I could have set this up, I would have taken claim, but I have my corn growers who are just over here in the corner and they agreed with your percentage, Mr. Secretary, as far as the amount of corn that is going into ethanol production, so you are right on.

SECRETARY BODMAN. Thank you, sir.

MR. SHIMKUS. And now the Chair would like to recognize my colleague and friend from Massachusetts, Mr. Markey.

MR. MARKEY. Thank you.

MR. SHIMKUS. Five minutes.

MR. MARKEY. Thank you very much. Mr. Secretary, are you troubled by the fact that your Department is toting the fast breeder reactors as a panacea for proliferation at the very moment that India negotiators are cleaning the President's clock expressly to reserve the plutonium breeder capacity of their present and future fast breeder reactors for weapons-grade plutonium production?

SECRETARY BODMAN. No.

MR. MARKEY. Why aren't you concerned? This is an exception to the Nuclear Nonproliferation Treaty and the Nuclear Nonproliferation Act which is now going to be advertised by the Indians as a way in which they have been able to reserve their capacity to produce nuclear bomb-grade material in their fast breeder reactors and obviously that will send a signal to other countries in the world that they, too, should be attempting to gain access to nuclear breeder reactors so that they can have nuclear bomb-grade material produced? Why isn't that something that is at the top of your concerns, Mr. Secretary?

SECRETARY BODMAN. Mr. Markey, you and I have discussed this in the past and we don't agree. I don't agree with you; it will not come as a surprise to you. First of all, I view the agreement that has been struck with India as a very positive event. The United States has agreed to seek from Congress an exception for India, an exception related to the Atomic Energy Act, I think it was of 1954 or so. It has agreed to work this issue with the Nuclear Suppliers Group, which is a group of, I think, some 40 nations that are signatories to the Nonproliferation Treaty. The Indians have agreed to take two-thirds of their reactors and, for the first time, have nuclear reactors in India that will be submitted to scrutiny of the International Atomic Energy Agency.

MR. MARKEY. Are their fast breeder reactors going to be part of the safeguards program?

SECRETARY BODMAN. No. They are not. I think they have two small fast breeder reactors that are used for experimentation, to my knowledge.

MR. MARKEY. Mr. Secretary, they can make bomb-grade nuclear material in those breeder reactors which President Bush is not requiring them to put under full scope safeguards.

SECRETARY BODMAN. That is correct.

MR. MARKEY. Will the Indians qualify for help under your global nuclear program despite the fact that they are not putting their breeder reactors under full scope?

SECRETARY BODMAN. I would think that they would not.

MR. MARKEY. You think they would not?

SECRETARY BODMAN. I would think that they would not.

MR. MARKEY. Okay, so the sharing of GNEP technology with India is not going to happen?

SECRETARY BODMAN. I can't tell you that. I answered your question, Congressman. You said do you think and I said I would think not.

MR. MARKEY. You would think not.

SECRETARY BODMAN. I am one person. The Administration has got a lot of different people that think different things, but I would think that they would be where they are in a position that they are not involved with, they have not subjected their breeder reactors or so-called fast reactors to international scrutiny that they would not be involved in GNEP.

MR. MARKEY. Mr. Secretary, under Section 57(b) of the Atomic Energy Act you have the authority to approve nuclear technology transfers. These are so-called Part 810 transfers. Since the July 18 agreements, have you approved any such transfers to India?

UNIDENTIFIED SPEAKER. Excuse me for a minute.

SECRETARY BODMAN. I have no idea who this lady is.

UNIDENTIFIED SPEAKER. Hello. Excuse me, sir. My name is--

CHAIRMAN BARTON. Ma'am, you haven't been approved to be a witness. Our only witness is the Secretary.

UNIDENTIFIED SPEAKER. Well, my problem is that I was told by the office that I was supposed to be here today to testify at 11:21, and my children, who have been raped and tortured in the street--

CHAIRMAN BARTON. That hearing is in the Senate. You are in the wrong room. This is the House, not the Senate. You are in the wrong room, ma'am.

UNIDENTIFIED SPEAKER. Do you know where I would go, sir?

CHAIRMAN BARTON. If you will go with that gentleman, we will find out.

UNIDENTIFIED SPEAKER. Thank you, sir.

CHAIRMAN BARTON. Thank you, ma'am.

SECRETARY BODMAN. I have forgotten where we were, Mr. Markey.

CHAIRMAN BARTON. Thank you. You may proceed, Mr. Secretary.

MR. MARKEY. Could I ask, Mr. Chairman, if the time would be placed back onto the clock for me so that I can continue my questioning?

CHAIRMAN BARTON. Sure. Sure. There you go.

MR. MARKEY. I thank you. I thank you, Mr. Chairman, very much. Have you approved any such transfers to India?

SECRETARY BODMAN. No.

MR. MARKEY. No. Are there any requests for nuclear technologies to India currently pending before the Department of Energy?

SECRETARY BODMAN. Not that I am aware of.

MR. MARKEY. Could you check for the record?

SECRETARY BODMAN. Of course.

MR. MARKEY. Let me again, I make the point again that our credibility with Iran and North Korea and Pakistan is going to be destroyed if we make an exception for India. It will not end.

SECRETARY BODMAN. If I may say, Mr. Markey, to compare India with North Korea and Iran, I believe, is a gross distortion of the facts. Indian has had nuclear materials for a number of decades. They have been very responsive, they have never been involved in proliferation efforts or issues that I am aware of and I think that you are aware of and where it is clear that both Iran and North Korea have got serious questions with respect to that issue and I just think it is a very bad comparison, if I may say.

MR. MARKEY. It is not a bad comparison and I will tell you why. India never signed a nuclear nonproliferation--

SECRETARY BODMAN. I understand that.

MR. MARKEY. Iran and North Korea and other countries have. We now have Iran before the Security Council at the UN asking them to comply with the agreement so that we have their uranium enrichment program under full scope safeguards. It is preposterous for the President to think that he can go to India and give an exception for a plutonium breeder reactor program that actually manufactures nuclear bomb material and not to think that Iran is going to point to that exception to Russia, to China, to others at the Security Council and say how can you have two standards? How can you have one for a country that doesn't sign the treaty and then one for our country that does sign the treaty? Why should we sign the treaty? Why should we abide by it? And Pakistan will be making that case. North Korea will be making that case.

I think that Chavez in Venezuela will be arguing that they could cut a deal with China for nuclear programs with that same type of agreement. I just think that the precedent is so dangerous for India, which we can cut a deal in the clean coal technology sector which is 70 percent of their electrical generating capacity. We could have cut a multi-billion dollar agreement rather than in this 2 percent sector in nuclear electrical generating capacity which has incredible precedential value when it comes to Iran and North Korea and Pakistan, Venezuela, other countries that actually talk in terms of nuclear weapons programs, so the exception makes the rule unenforceable because these other countries are going to look at it and they are going to say we are not going to abide by it, either.

The President can't determine where the exceptions are. It has to be the nonproliferation rule which we are maintaining. Selective proliferation on a bilateral basis will destroy a multilateral uniform enforcement of the nonproliferation treaty, especially at a point where we have the world with us at the UN with Iran. Russia will have less of a reason to be tough on Iran if we have less interest in being tough with India, which has never signed a nuclear nonproliferation treaty and is touting the fact that they are going to use their breeder reactor program now to construct more nuclear weapons after the U.S. has just signed this agreement last week.

That is why the onus is on Congress now because if we don't maintain it, we are going to see the spread of nuclear weapons across the planet without the enforcement of the globe and this debate is something which goes right to this GNEP program which you are bringing before us, Mr. Secretary. If we don't ensure that safeguards are put in place where we are spreading this technology, then we should expect the rest of the world to use it as an exception that will basically eviscerate the entire nuclear nonproliferation regime in the world and that is the only place where Bush and Kerry agreed that nuclear nonproliferation is the number one issue. You can't say it is the number one issue and then carve out exceptions that Iranian and North Korean diplomats can look to. I thank the Chairman.

SECRETARY BODMAN. Is there any question there or is it just a speech, sir?

MR. MARKEY. It is obviously something I want you to take back to the President because I don't think he understands the implications for the planet.

SECRETARY BODMAN. I believe he does, sir, and you and I, as I said, have already talked about this.

CHAIRMAN BARTON. The gentleman from Nebraska for six minutes, Mr. Terry.

MR. TERRY. Thank you, Mr. Chairman. I just have a few questions here. E85, automobile industry is touting the E85, the number of flex fuel vehicles that are out on the road today, even in the State of Nebraska there is a total of three E85 pumps. I have contacted people I know who own chains of BP Amocos and Shells who have told me that they have contacted their franchisor and have said not only no, we will not give you permission, it is a violation of your contract; and hell no, we won't waive that provision of the contract to allow you to put E85 under the canopy, and this has all been within the last 60 days. So is the Department of Energy doing anything to work with our major retailers to allow E85 under the canopy or at least on the premises?

SECRETARY BODMAN. Yes, this issue is one that arose for the first time, in my thinking, last week. This is a new issue in terms of my concern, my consciousness. So I have instructed my colleagues and myself each time we see executives of the large oil companies to talk with them about what they are doing to encourage the development of additional ethanol. The problem that they have, and I have had one conversation so far, the problem that they have is that they are not in the business of manufacturing the ethanol as yet and therefore they cannot certify the quality of the material that is there. They cannot certify the fact that the ethanol is used in vehicles that are supposed to accept the ethanol; that vehicles' owners may put the fuel, put the E85 in a vehicle that shouldn't have, that is not equipped to deal with E85, so that is their concern and so there are a number of issues that have to be worked through. It is not a simple matter to merely wave a wand and cause something to occur.

MR. TERRY. Are you working, then, or is your Department working with those issues to see that we can get more E85 pumps out there without having to be a completely independent, you know, come and go-type gas station?

SECRETARY BODMAN. Are we?

MR. TERRY. Are you working--

SECRETARY BODMAN. We are working the issue. I am trying to understand what the facts are and that is the first time, as I said, this occurred a week ago. I was asked a question. I frankly hadn't focused on it prior to that and this is the second time I have been asked.

MR. TERRY. All right, I would appreciate your continued efforts.

SECRETARY BODMAN. We would be happy to do it.

MR. TERRY. It is important.

SECRETARY BODMAN. I understand.

MR. TERRY. Then on the hydrogen fuel cell, which I really think is long-term. E85 is a short-term solution, and I want to talk a little bit about the Hydrogen Fuel Cell Initiative. One of the more important

areas is energy efficiency, the renewable energy, which is just shy of $200 million. On the surface, that appears extremely low. In order to convince the American public that we are really serious about new alternative technologies, do you feel that the $195 million in that specific category, and $288 million in total Department of Energy for the Hydrogen Fuel Cell Research Development Initiative is right on, too small, too big?

SECRETARY BODMAN. Well, it seems to me to be dealing with the right issues. The issues with respect to hydrogen are in two areas, technical issues. One, is the development of the fuel cell and shrinking the size of the fuel cell, that is to say, upping the current density and that involves a lot of sophisticated work related to the design of the membrane and so forth, so I think it is about the right amount.

MR. TERRY. Okay.

SECRETARY BODMAN. The second issue--

MR. TERRY. I would agree with your first conclusion and respectfully disagree, then, that with those highly technical problems that $288 million is enough.

SECRETARY BODMAN. Well, the President committed, I think the number was a billion one or billion two--

MR. TERRY. Over five years.

SECRETARY BODMAN. Over five. I was about to say over five years. You completed my sentence for me.

MR. TERRY. I like to do that.

SECRETARY BODMAN. I thought you were very good at that. And so we are on target to do that and we believe that we are having an impact. I should also add that private industry is also investing heavily in this area and they seem to be making very good progress.

MR. TERRY. Yes, they do and I appreciate their efforts, as well. I certainly would support probably a doubling of the renewable energy and the science portions of that. Another area that I hear a great deal of and I would appreciate your comment, earmarks have taken away about 25 percent of that and according to some of your employees, without them going too far out on a limb, have stated that that has slowed down the progress.

SECRETARY BODMAN. That is accurate, that is accurate.

MR. TERRY. So you agree with that?

SECRETARY BODMAN. Yes, sir.

MR. TERRY. Should we fight to eliminate those earmarks?

SECRETARY BODMAN. Well, I think earmarks are a Congressional prerogative. I think what we can do from our standpoint, and it is up to us to make the case as to why we want to have the money spent the way

we wish to spend it and then why spending it in other ways is not as desirable and you know, clearly the power of the purse sits in Congress.

CHAIRMAN BARTON. The gentleman's time has expired.

MR. TERRY. And I would certainly fight to eliminate those earmarks.

SECRETARY BODMAN. Thank you, sir.

CHAIRMAN BARTON. The gentleman from Maine, Mr. Allen, for five minutes.

MR. ALLEN. Thank you, Mr. Chairman. Mr. Secretary, in my opening I mentioned that the Energy Efficiency and Renewable Energy Office programs are being cut by 18 percent and the Federal Energy Management Program, which leads the government-wide effort to save energy, is being reduced by 13 percent. I think the problem we have here is the one that Paul O'Neil described to the President when he left the Administration over the 2003 tax cuts. He told the President if you do the 2003 tax cuts as proposed, you will never have enough money to do anything else that you want and it seems to me that is true.

But I want to ask you a couple questions on energy efficiency. One, do you believe the funding for energy efficiency programs in the budget match the Nation's need for saving energy and if I can just follow up on that, the programs to deploy energy efficient technology have the most immediate impact on demand, yet the budget would eliminate a number of those programs and cut the rest. And so the general point is if there is a national interest in saving energy, if the President has said we are addicted to oil, why is DOE reducing the amount of money it spends on energy efficiency programs?

SECRETARY BODMAN. Well, first of all, there is accounting and then there is accounting and so it depends on which accounts you wish to look at. We have increased funding for vehicle technologies which are dealing with energy efficiency. We have increased funding for building technologies which deal with energy efficiency. We have reduced the weatherization program by about a third, which I know causes great angst, but that, frankly, is something that I did. When I had looked at where we had to make reductions in past programs in order to try to get a balanced budget, which is what we were instructed to do, we have a modest increase in the Energy Star program in order to promote the use of more effective appliances in our economy and so there are a lot of areas where we--

MR. ALLEN. But overall, Mr. Secretary, overall, if saving energy, being more energy efficient is a major national problem, something that requires the full attention of this Administration, we are not doing what we should be doing, wouldn't you agree?

SECRETARY BODMAN. We are doing a lot of things in this Administration and no, I don't agree with that and I think that there are always initiatives in areas where one could do more and so we had to make a lot of very tough choices, which I had said before and I say again. We had a half a billion dollar increase in the science budget, which I think is crucial to the future of our country.

MR. ALLEN. I hear what you are saying. I would just add that it seems to me all the tough choices, so-called, are being made on the expenditure side, not on the revenue side, but I know that is not your area of jurisdiction. Let me just ask you one other thing. The President said the President set a goal of reducing our Middle East oil imports by 75 percent by 2020. I don't have a clue how this program would ever get there or what kind of analysis he went through, the Administration went through, to get to that number. I do not understand, if 70 percent of our oil goes into vehicles, I don't understand how we could possibly reach that goal without significantly improving vehicular efficiency instead of just focusing on new fuels and that is more than just investments in technology. There has to be some way to substantially increase the efficiency of our cars and trucks. Would you comment on that?

SECRETARY BODMAN. Yes, the simple question, sir, is ethanol, and ethanol is the approach that is the background of the President's goal of reducing the consumption of imported oil 20 years out, by five million barrels a day.

MR. ALLEN. Cellulosic ethanol?

SECRETARY BODMAN. Cellulosic ethanol because for reasons that I, again, I am not sure who was here when I said what I said, but we are running short of corn, I believe we will start to import corn. There will be limits as to how much corn we can use and we are now, I think, at 14 percent of the corn that is grown in this country is being used to produce ethanol and we are going to see that reflected, it will be reflected economically in food prices and other issues. So we need to get cellulosic ethanol which has the potential, if we are successful, by the year 2012 of getting the cost of cellulosic ethanol below a dollar, that we would be in a position to accomplish this five million barrels a day goal that the President has set.

MR. ALLEN. Thank you. Mr. Chairman, could I just ask one question for the record?

CHAIRMAN BARTON. Yes, sir.

MR. ALLEN. Mr. Secretary, would you be willing to provide me with the backup, whatever analysis went into this 75 percent reduction in Middle East oil imports by 2020, the calculations, the backup?

SECRETARY BODMAN. Fine.

MR. ALLEN. I would very much appreciate it.

SECRETARY BODMAN. Sure.

MR. ALLEN. Thank you.

CHAIRMAN BARTON. The distinguished subcommittee chairman of Commerce, Trade, and Consumer Protection Subcommittee, Mr. Stearns.

MR. STEARNS. Thank you, Mr. Chairman. Mr. Secretary, I am going to ask sort of an easy question to start off.

SECRETARY BODMAN. An easy question?

MR. STEARNS. Easy question, yes.

SECRETARY BODMAN. I see.

MR. STEARNS. Okay. Could you explain the safeguards in the Global Nuclear Energy program to prevent weapons usable fuel from getting into the hands of terrorists? If you could sort of explain that to us just to give us some confidence on that would be helpful.

SECRETARY BODMAN. The GNEP program consists of three parts. One is the so-called urex-plus recovery of transuranic elements. That means plutonium, it means americium, curium, neptunium. Those are the four elements that are in large quantity inside, that are in spent fuel today. So the first thing is to recover it as an alloy or as a mixture. That mixture is not usable for making bombs by terrorists or by people who would do harm to us. The process that is used, for the most part, in the world today is the purex process, with a P. Purex recovers pure plutonium. That is what goes on in France, it goes on in Russia, at least those two countries and perhaps elsewhere. And so we have significant quantities of plutonium that have been recovered and is now being stored in secure environments by countries that are employing that technology and so that is the primary difference, is to be able to recover it.

And then the second piece of the GNEP initiative is a reactor that will burn it effectively and the third piece is an effort to recycle the fuel that comes out of the fast reactor or this burning process that will enable us to reduce the number of transuranic elements.

MR. STEARNS. Now, you have given me the three things. Do you think the safeguards are in place to protect so that this fuel doesn't get into the hands of terrorists?

SECRETARY BODMAN. Well, they will have to be. I mean, when you say safeguards, that means that you have a standard of controlling this that the--

MR. STEARNS. And you feel a high level of confidence that the safeguards are there?

SECRETARY BODMAN. Well, what I have is the confidence that the transuranic materials, as a component, is not directly useful for making weapons. That is the principal difference. Now, could you take the transuranic elements and then extract plutonium from it? Sure. You

have to protect it and you have to deal with it seriously and you have to have it subjected to the kind of safeguard--

MR. STEARNS. But it is pretty high technology to do that?

SECRETARY BODMAN. Oh, it is very, this is extremely high technology.

MR. STEARNS. Okay. Did you go with President Bush to India?

SECRETARY BODMAN. No, I did not.

MR. STEARNS. Okay. Were you briefed on his agreement before he went?

SECRETARY BODMAN. Yes.

MR. STEARNS. So you well aware what he was trying to do?

SECRETARY BODMAN. I was aware of it, yes.

MR. STEARNS. Yes.

SECRETARY BODMAN. I can't tell that I was aware of all the details, but I was generally aware of what he was trying to accomplish.

MR. STEARNS. Now, India has agreed to let the International Atomic Energy Agency inspect 14 of the 22 nuclear facilities.

SECRETARY BODMAN. That is correct.

MR. STEARNS. So that leaves eight that are not going to be inspected. Is that a concern? Should we be concerned at all with this new agreement that eight of these facilities are not going to be inspected?

SECRETARY BODMAN. I think it is a fair issue to ask questions about and so in that sense, is it fair to be concerned? Yes. I consider this agreement to be a significant step forward. India has been a very responsible member of the world community when it comes to nonproliferation.

MR. STEARNS. They didn't sign the Nuclear Nonproliferation Treaty, right?

SECRETARY BODMAN. That is correct.

MR. STEARNS. Okay.

SECRETARY BODMAN. I am talking about there are countries which have signed the nonproliferation treaty which have, in fact, proliferated.

MR. STEARNS. You mean like Iran?

SECRETARY BODMAN. Like Iran, like North Korea. And so that the signing of an agreement is not, it is not a sufficient condition to put on judging what I said and what I said was that India, despite the fact that they have not signed the agreement, have been a very responsible member of the world community. There is no record of any sign in any way that they have proliferated technology or materials out of that country.

MR. STEARNS. But you would agree that--

CHAIRMAN BARTON. This will have to be the last question.

MR. STEARNS. Yes. You would agree that the last eight, I mean it is eight sites that they are not going to inspect and they will allow 14 and you voiced some reservation that perhaps we should have access to those eight sites, is that the way I hear you saying it?

SECRETARY BODMAN. No, that is not what I said. Whatever the President agreed to, he agreed to and he agreed to it without the eight sites. Would I rather have the eight sites in rather than out? Sure.

MR. STEARNS. Okay, yes.

SECRETARY BODMAN. But we don't.

MR. STEARNS. Yes, all right.

SECRETARY BODMAN. And do I consider the agreement that is there a good agreement? I do. And the reason I think it is a good agreement is India has been very responsible in the past. I expect them to be very responsible in the future. And I think this is a very good step to kind of bring them into the international nuclear community in an effective way. It recognizes the facts of life of what the situation is there and I think it is a reasonable and a responsible thing to do.

MR. STEARNS. All right. Thank you, Mr. Chairman.

SECRETARY BODMAN. Thank you.

CHAIRMAN BARTON. We thank the gentleman. Before I introduce Mr. Dingell to ask his questions, we have one of the distinguished railroad commissioners of the great State of Texas in the audience, the Honorable Victor Carrillo. We welcome you to our committee. You have testified before. Glad to have you here. Mr. Dingell for five minutes.

MR. DINGELL. Mr. Chairman, thank you. Welcome, Mr. Secretary.

SECRETARY BODMAN. Thank you, sir.

MR. DINGELL. Mr. Secretary, in your statement you said, at page two, as a complement to GNEP strategy, the Department will continue to authorize a permanent geological storage site for nuclear waste at Yucca Mountain. I find this troublesome because you are saying as a complement. The Congress gave you clear authority and clear instructions that this was to be completed back in 1982. Since that time, ratepayers have contributed better than $20 billion to the waste fund and the government is now paying utilities millions of dollars annually in compensation for delays. Now, the question, and I think this is yes or no. Mr. Secretary, does DOE have the resources, fiscal, human, and financial to undertake a program of the magnitude of GNEP without sacrificing the focus required for it to fulfill its statutory duties with respect to the Yucca Mountain repository? Yes or no.

SECRETARY BODMAN. Do we have it today?

MR. DINGELL. Do you have it today.

SECRETARY BODMAN. We have the management resources. We certainly don't have the technical resources.

MR. DINGELL. So you don't have the resources to do this and I find this troublesome, Mr. Chairman, or rather, Mr. Secretary, because we have been waiting a long time on this. It is a massive problem to the country--

SECRETARY BODMAN. Mr. Dingell, may I, then, I want to make sure I understand what I understood you to ask. Do we have the resources to undertake--

MR. DINGELL. Fiscal, financial, personnel.

SECRETARY BODMAN. To undertake GNEP at the current time as well as to pursue Yucca Mountain? I believe we do have the resources to pursue Yucca Mountain and we are pursuing it. I do not believe that at the current time we have the resources to pursue GNEP.

MR. DINGELL. All right.

SECRETARY BODMAN. The technical resources.

MR. DINGELL. You have got, Mr. Secretary, a program on Yucca Mountain that indicates that probably the potential benefits of that are not going to be realized sometime in the future. In like fashion, it appears that even if things do go well, GNEP's program will not be realized for decades. Is that correct or not?

SECRETARY BODMAN. Which one, sir?

MR. DINGELL. Well, first of all, I think you are way behind on Yucca Mountain.

SECRETARY BODMAN. That is correct.

MR. DINGELL. But GNEP's potential benefits I don't think are going to be realized for decades.

SECRETARY BODMAN. That is correct.

MR. DINGELL. As a matter of fact, that is a program that has not even begun to be worked on at the agency.

SECRETARY BODMAN. That is correct.

MR. DINGELL. Now, Mr. Secretary, are you effectively advocating in the Department extended interim storage of spent fuel bound for the repository at Yucca Mountain above ground in order to let GNEP catch up before the waste is disposed of in the underground repository?

SECRETARY BODMAN. We are pursuing Yucca Mountain with as much vigor as we can independent of progress or lack thereof with respect to GNEP.

MR. DINGELL. Now, Mr. Secretary, you are aware of the rate payers' contribution to the Nuclear Waste Fund?

SECRETARY BODMAN. Yes, I am.

MR. DINGELL. I have long been concerned about them being diverted to unrelated purposes, something which has regularly happened

and I am concerned that $18 billion or so now sitting in the Nuclear Waste Fund could be a particularly tempting target for parties looking to fund GNEP. My question to you is are you going to use the Nuclear Waste Fund to fund GNEP?

SECRETARY BODMAN. No.

MR. DINGELL. Is that a commitment here?

SECRETARY BODMAN. Yes.

MR. DINGELL. Now, Mr. Secretary, does the Department have any authority under the Nuclear Waste Policy Act to tap money so the Nuclear Waste Fund in order to pursue activities under the GNEP program? In other words, do you have authority to do that?

SECRETARY BODMAN. I do not believe so. I do not know the answer. I would be happy to get you that before the record--

MR. DINGELL. That would be very much appreciated. Mr. Secretary, last question. Would the Department please provide the committee with the legal memorandum addressing this question?

SECRETARY BODMAN. Of course.

MR. DINGELL. I would appreciate it. Last of all, Mr. Secretary, you are always welcome here, but I think you owe me one letter and I know you want to--

SECRETARY BODMAN. You are correct. Your bookkeeping is better than mine and I do owe you one letter.

MR. DINGELL. It would be much appreciated. The folks in the Administration are always a little bit hard put to respond to letters from Members of Congress, so we try to remind them when they come up here so that they will know that we are saddened by the fact that they do not respond to our mail.

SECRETARY BODMAN. I would like to say, sir, if I may, that I have personally worked very hard on trying to maintain a sense of responsiveness on the part of my colleagues in the Department to the Members of Congress to the point where each week, each Monday morning we have a meeting and the man who is responsible for all of the executive communication, correspondence, makes a report and we are, I think, increasingly diligent and so what the reasons are for this, this arrived on February 8, your letter, or at least it was dated February 8, I presume was faxed to us. I don't know the details of it, but you can be sure that it will have our attention.

MR. DINGELL. Mr. Secretary, I don't want you to think my comments to you this morning indicated any hostility or lack of affection or respect. It just indicated a certain concern about the fact that not just your agency, but every agency down there doesn't seem to respond to the concerns of Members of Congress and I would just like to remind

everybody who comes up here about the need to make us feel better by responding.

SECRETARY BODMAN. Well, sir, we recognize the fact that this Congress has the power of the purse and as far as I am concerned, you all are the customers and we are doing our very best to be responsive to you.

MR. OTTER. [Presiding] The gentleman's time has expired. The Chair recognizes the gentleman from Texas, Dr. Burgess.

MR. BURGESS. Thank you, Mr. Chairman. Mr. Secretary, increasing domestic production is something we are all concerned about. There is a program of enhanced oil recovery through carbon dioxide injection into older wells and this recoverable oil resource could be increased. It is almost 400 percent. The estimate is 430 billion new barrels to technically recoverable reserves. That figure, in fact, would put us ahead of Saudi Arabia's reserve count. The budget proposal that we have received, you are terminating the petroleum oil and natural gas technology programs that we have to thank for this knowledge and why is it that that--is this probably the same answer that has been generated before on other programs, but this is a terribly important program and in my neck of the woods down in Texas, we have the Gittings Field down in central Texas, the Barnett Shale up in north Texas. The Gittings Field has a lot of recoverable oil left in it if we would just develop the technology to bring it to the surface.

SECRETARY BODMAN. You know, I would, I guess, say two things. One, a lot of the use of carbon dioxide to stimulate the recovery of oil has been around for decades, as you well know, and part of the issue that goes into a decision of this kind is how much research, what is the role of public funding for research in some of these initiatives and I think the decision that was made was that with $60 oil, that there is plenty of incentive for the owners of these reserves to develop all kinds of approaches to recovering that oil. It is just a very good investment. And so I guess the question I would have would be to try to understand to a better degree than I do what the specifics are of that program and why it is something that makes sense for, with $60 oil, why does it make sense for us to put public money into it?

MR. BURGESS. With the coal-based methane and the natural gas reserves of the Barnett Shale down in Texas, those are promising additions to our domestic supply of natural gas.

SECRETARY BODMAN. Right.

MR. BURGESS. But these fields are developed, not by the big guys, but by the smaller, independent producers who don't have the budgets, who don't have the capital, who don't have the wherewithal for developing this type of technology. Therein lies the problem. These are

smaller pockets of energy that are developed by smaller players in the market and not by the big boys.

SECRETARY BODMAN. This has a resonance to it that resonates with my several conversations with Mr. Hall related to the ultra-deep drilling.

MR. BURGESS. Well, I would appreciate it if perhaps your staff could get back to my office with a little bit more detail on this.

SECRETARY BODMAN. Of course. I would be happy to do it, sir.

MR. BURGESS. I mean it is the health of the nation, as well.

SECRETARY BODMAN. I understand, sir.

MR. BURGESS. Just the other matter that I alluded to in the opening statement about the energy bill that we passed in October that has not yet been voted on in the Senate, one of the provisions in that bill, Texas has a pretty good program for the Attorney General being in charge of price gouging, as my understanding through the work we did on that bill, if there is not a national program and this bill, for the first time, did develop a national program for someone to look at the concept of price gouging. Is this something that you feel would be a good thing for the country to have? Is it something the Department of Energy does not want?

SECRETARY BODMAN. It is not a matter of not wanting, I think it is a matter of when one starts to supersede State law. The price gouging law, largely State laws, as I understand it, we were, particularly in the days when gasoline ran up in the aftermath of Katrina and Rita, we were the recipient of, we had a toll-free number as well as a website that collected information, complaints from consumers. We put all that together, took it to the Federal Trade Commission and they, in turn, worked with the Attorneys General around the country. That seemed to be a reasonable way to go about doing it and would not require the bureaucracy and the more, the larger apparatus to try to impose on the States a Federal mandate, so I guess the first thing I would want to do is to find out is how did we do? As best I knew, we did pretty well in terms of getting information and there were some litigation and some people that were charged as a result of activities following Katrina and Rita.

MR. BURGESS. Is that information available in any sort of report for us?

SECRETARY BODMAN. The answer is I don't know. I would be happy to look at it.

MR. BURGESS. Okay.

MR. OTTER. The gentleman's time has expired. The gentlelady from Illinois.

MS. SCHAKOWSKY. Thank you, Mr. Chairman. Thank you, Mr. Secretary. First, Mr. Chairman, I would like to put into the record a report from the Midwest Attorneys General's Natural Gas Working Group.

MR. OTTER. Without objection.
[The report follows:]

THE ROLE OF SUPPLY, DEMAND AND FINANCIAL COMMODITY MARKETS IN THE NATURAL GAS PRICE SPIRAL

Prepared for

MIDWEST ATTORNEYS GENERAL NATURAL GAS WORKING GROUP (ILLINOIS, IOWA, MISSOURI, WISCONSIN)

Prepared by

MARK N. COOPER, Ph.D.

MARCH 2006

EXECUTIVE SUMMARY

Background Context of the Study

This report examines the factors underlying the recent upward spiral of natural gas prices. It paints a very different picture than the one we frequently see on television, read in the press or hear in testimony at legislative or regulatory proceedings. The easiest way for all parties to avoid responsibility is to blame tightness in the physical market and invoke Mother Nature – the weather and geology:

- Demand is soaring or skyrocketing.
- Supply is constrained by nature and public policy.
- Financial markets send efficient price signals to balance supply and demand.

This is a simple story, which is often repeated because it is easy to sell; **unfortunately, it is, at best, half true.**

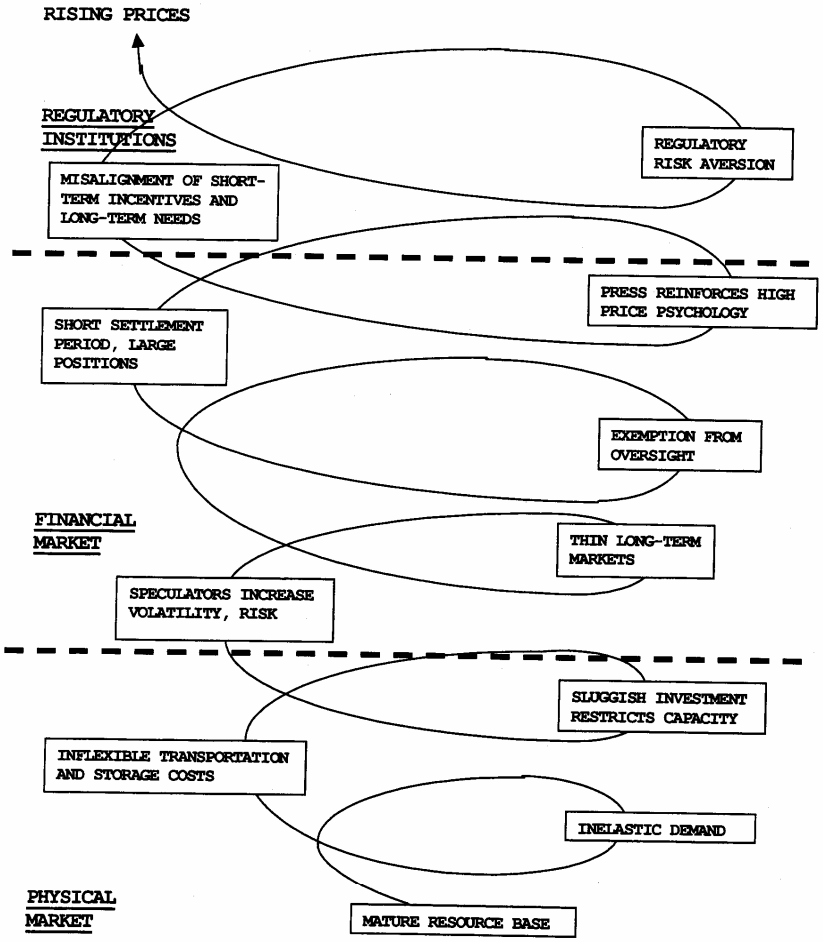
The reality is much more complex (see Exhibit ES-1). Many factors in natural gas physical and financial markets have interacted in an upward spiral to raise natural gas prices to far higher levels than they should be. Although the simple explanation/excuse is easy to tell, the more complex story is just too important not to tell. The frenetic, upward spiral of natural gas prices deeply affects household budgets and economic activity. Consider the following:

- The wellhead price of natural gas in the six-year period of 2000-2005 increased by over **$400 billion dollars** compared to the previous six years.
- Winter heating bills in the Midwest this winter are projected to be up by **$250 per household**, or 28 percent, compared to last winter, despite a 5 percent decline in consumption. They are up by over **$600** compared to five years ago.

If we do not look behind the half-truth, half-hype smokescreen of the headlines, consumers will continue to pay a lot more for natural gas than they should. The public discussion must be expanded to include the other factors that have been powering the upward ratchet of natural gas prices since the start of the 21st century. We must do this not simply because high prices are harmful, but also because specific policy mistakes made in the past have helped to cause the current problems. There are policy measures that can and should be taken in the future to reduce the upward spiral.

Beyond the staggering sums at stake, two fundamental observations provide the background for this analysis:

EXHIBIT ES-1: CAUSES OF SPIRALING NATURAL GAS PRICES



First, the widespread reliance on natural gas commodity markets to set the price paid by consumers is an extremely recent phenomenon, just over 15 years old. As evidenced by the wild, irrational swings in natural gas prices, these new markets have not worked very well. They are deemed to be 'inefficient' in technical academic studies and have a history of manipulation, abuse and misreporting.

Second, natural gas has supply and demand characteristics that make it vulnerable to abuse and volatility, yet the markets in which wholesale natural gas prices are set are less regulated than many other commodity markets. Many in the industry believe these markets lack transparency and are vulnerable to abuse and manipulation. Regulators have failed to lay these concerns to rest because the vast majority of gas trading is subject to little monitoring or oversight. While regulators and policymakers have been scrambling to reform the market rules for this commodity, they have yet to impose comprehensive oversight and accountability.

Physical market fundamentals – a tight supply/demand balance – are not adequate to explain either the short-term or long-term behavior of natural gas prices. This does not mean that tight markets do not matter – of course they do – but identifying physical market fundamentals is only the beginning of the story, not the end.

- Tight markets reflect public policies and strategic behaviors, not just Mother Nature. To the extent that Mother Nature is a wild card, policymakers can and should create systems that are less vulnerable and better able to mitigate the impact of supply shocks.
- Natural gas commodity markets have exhibited erratic behavior and a massive increase in trading that contributes to both volatility and the upward trend in prices. The rules can be changed to moderate these effects.
- The incentive structures and distribution of bargaining power in the physical and financial markets for natural gas are unnecessarily tilted against the consumer. Public policy can and should ensure a better balance.

When we look for answers, we end up in Washington, D.C., where jurisdiction over the interstate natural gas system at issue resides. All of the major determinants of the wildly fluctuating price of natural gas in recent years – the physical (wellhead and pipeline) markets and the financial commodity markets – are under federal authority, but policy makers have failed to take the steps necessary to protect the public.

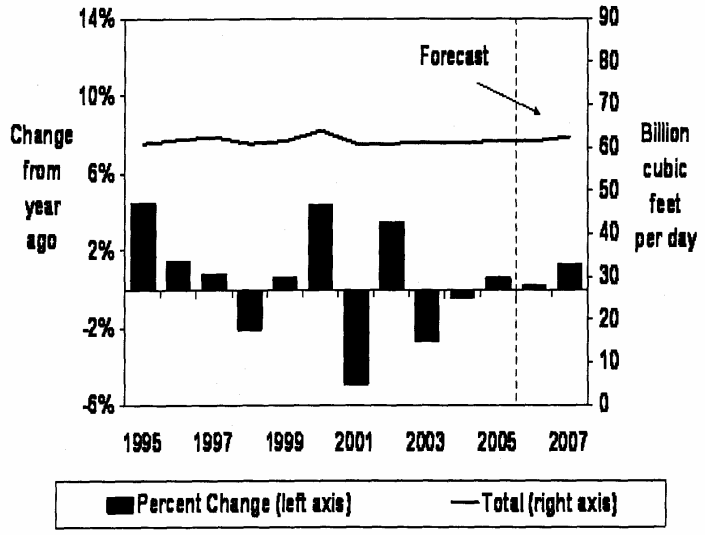
Physical Market Fundamentals

The long-term fundamentals of supply and demand do not support the current high price of gas.

- Demand has **not** been "surging," "soaring" or "skyrocketing," as is frequently reported in the press (see Exhibit ES-2). Over the past ten years it has been relatively flat, with a slight moderation of the winter peak. Over the past three years, it has declined slightly.

EXHIBIT ES-2: NATURAL GAS DEMAND: 1995-2005

Figure 12. Total U.S. Natural Gas Demand Growth

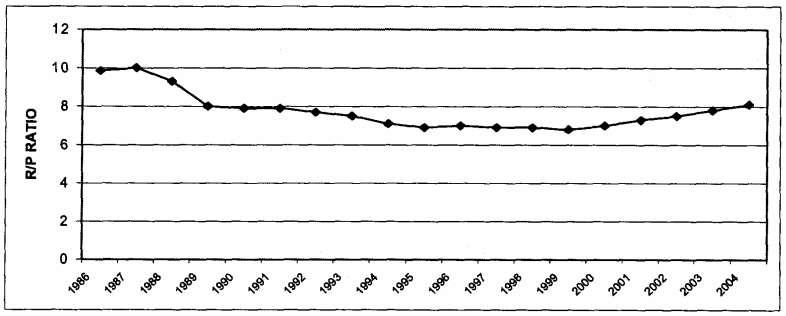


Short-Term Energy Outlook, January 2006

- Although supply reserves were drawn down in the late 1980s and 1990s and have become harder to find, in recent years reserve additions have been growing (see Exhibit ES-3). The reserve-to-production ratio has been increasing for the past six years.
- The long run cost of producing gas (even when using the high-end estimate of such cost) is far below the current price being paid.

Short-term conditions of supply and demand also do not support the current high price of gas:

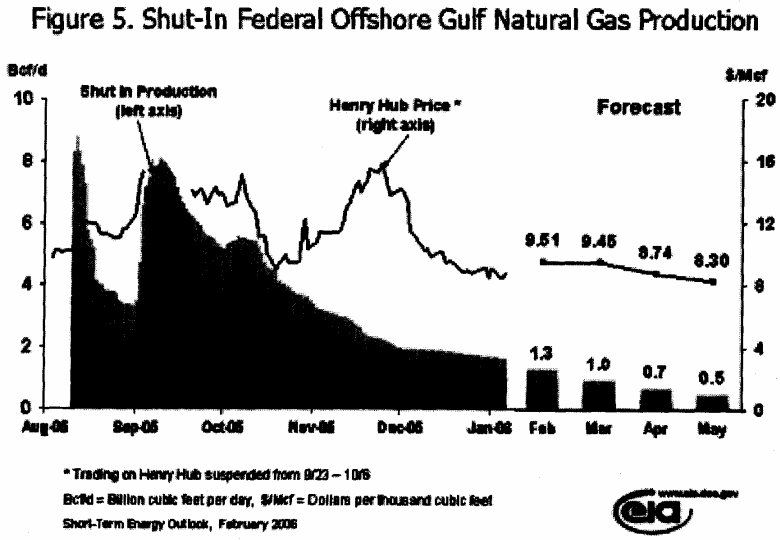
EXHIBIT ES-3: NATURAL GAS RESERVE TO PRODUCTION RATIO



Source: Energy Information Administration, database.

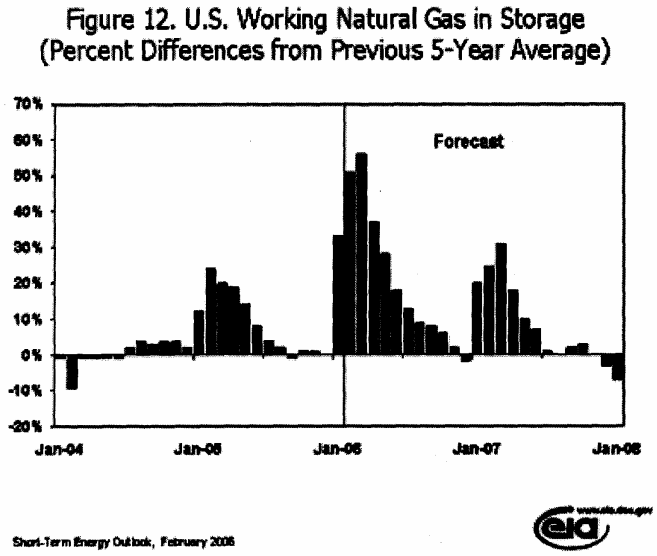
- Notwithstanding the effects of recent hurricanes, supply and demand are now about where they were last year or two years ago (both down a little, with demand down more than supply) (see Exhibit ES-4).

EXHIBIT ES-4: HURRICANES AND PRICES



- Gas in storage is at or near record levels for this time of year, up over 50 percent compared to the last couple of years (see Exhibit ES-5).

EXHIBIT ES-5: DRAMATIC INCREASE IN STORAGE

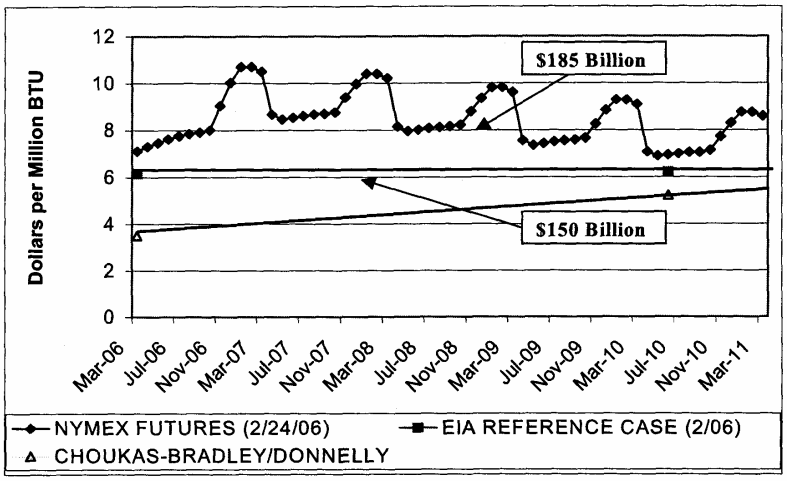


- Traditional supply and demand analysis would suggest that prices should be similar, or even a little lower than they were over the past two years, yet prices are running about $3.00 higher, up over **60 percent** at the wellhead and in the spot market.
- Future prices are even higher still, running about 40 percent above current prices. They are about twice as high as the estimated long run costs of production.

Assurances that things will settle down three or four years in the future are cold comfort. A $3.00 price difference costs consumers about **$5 billion per month**. The massive increases in cash flow enjoyed by the industry in recent years have not been used to expand supply. Sluggish investment keeps supplies tight.

Exhibit ES-6 captures the essence of this concern by contrasting the February 2006 Energy Information Administration (EIA) natural gas projected prices (really production costs) with the futures prices for the next five years, at the settlement of the March 2006 contract

EXHIBIT ES-6: PRODUCTION COSTS VS. SPOT PRICES
(Nominal Dollars)



Sources: NYMEX, 2/24 March 2006 settlement and Futures prices. Energy Information Administration, *Annual Energy Outlook: 200,* p. 155 for gas prices; p. 161 for price indices.

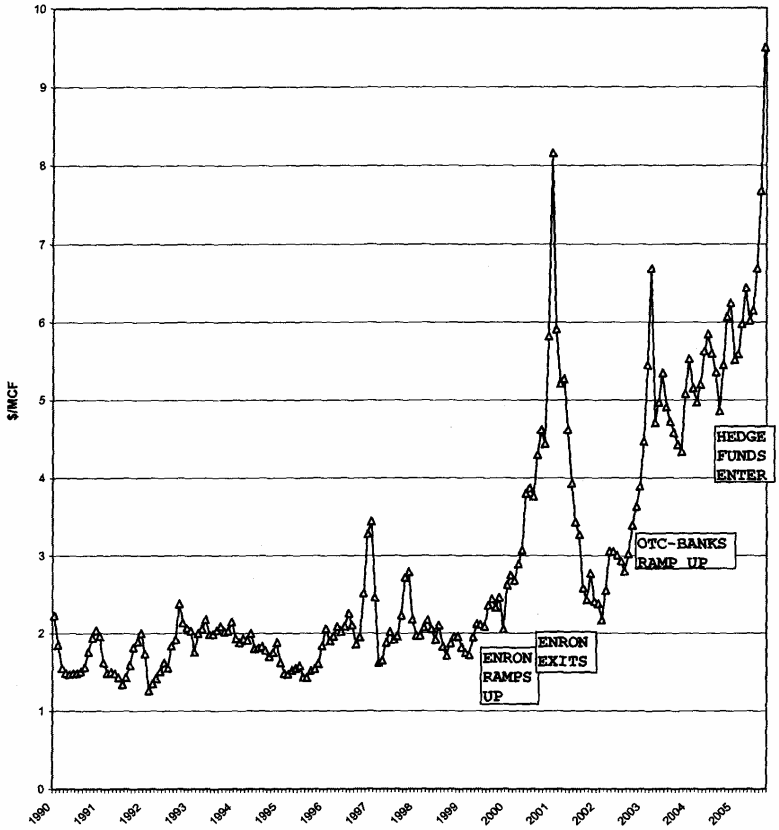
(February 24, 2006). Should the future prices become reality, there is a huge gap between those NYMEX prices and the underlying resource costs of about $185 billion dollars over the five-year period. The stakes are just too high for policymakers to scratch their heads and say, we'll see. The EIA's projection of costs is actually well above other estimates. Thus, the stakes are in the hundreds of billions of dollars.

Financial Markets Compound the Problem

There is a striking correlation between large increases in trading and increases in the volatility and level of natural gas prices (see Exhibit ES-7). Each time trading ramps up, prices ramp up as well. There seems to be a roller coaster and a ratchet. Prices rise rapidly, then decline, but eventually come to rest at a steadily higher base price.

Natural gas trading takes place in unregulated, over-the-counter (OTC) markets and lightly regulated exchanges, like the New York Mercantile Exchange (NYMEX). The physical commodity is traded in some cases – cash transaction – but financial instruments called derivatives that do not involve the transfer of actual ownership of the underlying commodity have become very prominent. There are concerns about both the OTC and the NYMEX.

EXHIBIT ES-7: WELLHEAD PRICES AND CHANGES IN TRADING ACTIVITY



Source: Energy Information Administration, *Natural Gas Database.*

There are several ways in which financial markets may be magnifying the upwardly volatile spiral of prices and contribute to the ratchet:

- Financial markets thrive on volatility and volume, but volatility and volume have costs. Producers of gas demand to be paid a higher premium to bring their gas to market sooner rather than later. Traders demand to be rewarded for the risks they incur, risks that are increased by the trading process itself.
- The influx of traders fuels volatility and raises concerns about abusive or manipulative trading practices.

Econometric analyses of the natural gas markets in recent years raise important questions as to how well the natural gas markets work. Given the uncertainty about the functioning of these markets, the claim that the market price is always "right" because it is the market price should be questioned:

- The economic analysis does not support the claim that these markets operate efficiently to establish prices.
- Risk premiums, which raise the price substantially (10 to 20 percent), are high and rising.
- Prices are well above the underlying costs of production.

The operation of financial markets is no accident. Trading reflects the rules that are established – by law and through self-organization. The most troubling aspect of natural gas trading is that policymakers really cannot decipher what goes on:

- The majority of transactions take place in markets that are largely unregulated.
- These over-the-counter markets, reported in unaudited, unregulated indices, are a major factor in setting the price of natural gas. And these unaudited, unregulated markets have behaved very poorly in recent years, with numerous instances of misreporting of prices.

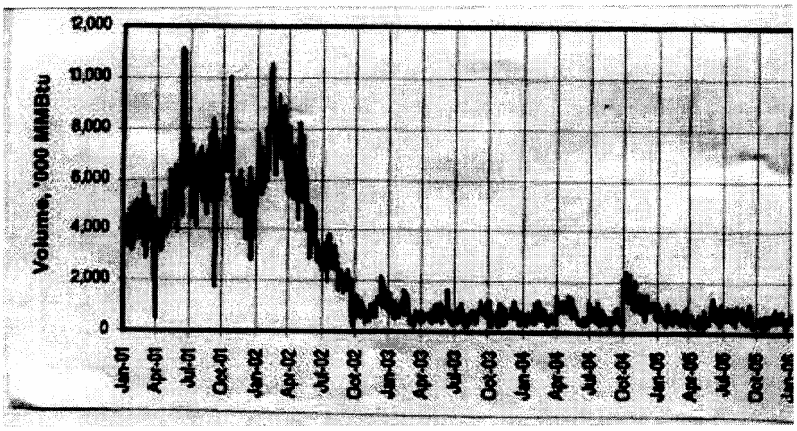
Even where there is light-handed regulation, the rules are inadequate to protect the public:

- A small number of large players can influence the price that consumers pay in a very short period of time and under circumstances that place the consumer at risk.
- Index prices are often based on a small number of self-reported transactions and there are no mechanisms for determining if such transactions represent an accurate sampling of the natural gas market. When even the hint of accountability was imposed by merely being asked to certify the veracity of reported transactions, traders stopped reporting (see Exhibit ES-8). The Exhibit below shows dramatically this phenomenon. The actual volume of trading did not dry up. Only the reporting of the volume did.

Thus, while some may be satisfied with recent market reforms and enforcement efforts, many others are not. The natural gas market lacks the most basic elements of transparency that are necessary to send proper price signals.

- The sad irony is that the markets for natural gas (a commodity which is a vital necessity for many Americans) are subject to far less regulation than most other commodities, most of which are far less crucial to consumers' everyday lives. Most people can live without pork bellies, soybeans or orange juice; but they cannot live without natural gas for heating.

EXHIBIT ES-8: GAS DAILY HENRY HUB REPORTED VOLUME



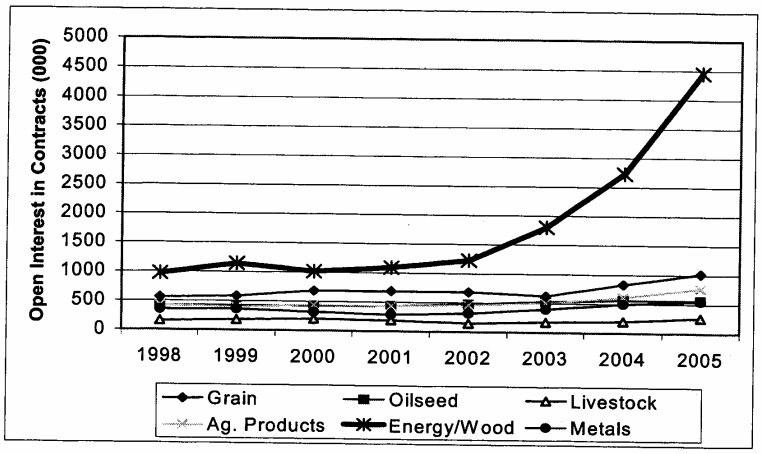
Source: Gas Daily.

Looking at the level of activity in the energy exchanges makes it hard to think that energy is just another ordinary commodity. The massive influx of traders and hedge funds has pumped up trading to astronomical levels. Exhibit ES-9 shows just the increase in the average number of open contracts (i.e. contracts entered into but not yet liquidated by an offsetting trade or physical delivery) at the end of the month over the past eight years. The remarkable growth in energy trading compared to other physical commodities is striking. Even this picture underestimates the increase in energy trading. The dollar value of these trades has increased much faster than the other commodities and off-exchange swaps for the agricultural commodities **are restricted and much less common** except in a very limited number of circumstances. In contrast, unregulated trading plays a very prominent role in natural gas markets.

Public Policy

While the story is complex, the bottom line is relatively simple. Things do not have to be this bad and the steps necessary to improve the situation do not involve the usual prescription about biting the bullet until the supply-side comes around. More can and should be done.

EXHIBIT ES-9: COMMODITY TRADING OF NON-FINANCIAL INSTRUMENTS (Average Monthend Open Interest)



Source: Commodity Future Trading Commission, Annual Reports: Futures Statistics by Major Commodity Group.

Over-the-Counter market: Unlike bankers and brokers in organized markets, traders in the over-the-counter market do not have to register or demonstrate their competence or good character. They do not have to report their holdings or positions. They can buy and sell this vital commodity/necessity with little capital or collateral to back up their promises. These markets need better oversight:

- Increased scrutiny could be achieved by requiring that traders in all the natural gas markets register and report their transaction and positions. Traders should be competent and not have a history of abusive trading.
- Natural gas traders should have the resources to meet their commitments and stand behind their trades, as bankers are required to do.
- Regulators should be able to see all markets so they can detect efforts to manipulate or exploit any individual market, including large transactions and large positions.

Exchanges: Even in organized exchanges where natural gas traders have to register, report and show financial and managerial competence, the rules are too lax. Market rules should discourage unproductive trading and be particularly on guard at moments of vulnerability in the natural gas markets:

- This can be accomplished by establishing reasonable limits on positions and ensuring that settlement periods are liquid and long.
- Vigorous oversight and stiff punishment of manipulation and abuse should be meted out swiftly.

Because state policy deals with local distribution utilities, it is difficult to drive change in the system from the buying end, where the primary concern is to make sure consumers have

- Mechanisms to promote long-term stability of commitments, transportation, storage and supply should be explored.
- States can also encourage utilities to be more aggressive in holding costs down, but the challenge is to find approaches that do so without exposing consumers to excessive risk.

The position of the major oil companies with large holdings of natural gas physical assets, dominance of natural gas marketing, and active involvement in natural gas financial markets poses a serious threat to consumers. Inadequate investment in exploration over the course of a decade or more contributed to the tight supply conditions. The massive windfall of cash flow in recent years dulls the incentive for the majors to supply gas to the market. They can keep it in the ground and hold out for higher prices. They are under no pressure to sign long-term contracts, except at extremely high prices. As major marketers and traders, they can move markets.

The fact that the majors straddle these markets, several of which are lightly regulated or entirely unregulated, compounds the problem, because their ability to profit by taking contrary positions in various markets is hidden from regulators. Policymakers must have the information necessary to make informed judgments about whether the major oil companies are exercising market power strategically in the long-term, and unfairly exploiting the tight markets they have helped to create in the short term.

A joint task force of federal and state antitrust and regulatory authorities should be formed to examine:

- the regional concentration of natural gas supplies;
- the behavior of the majors as marketers;
- behaviors of the major oil companies across all of the markets in which they are involved in physical as marketers, over-the-counter and in exchanges as traders.

MS. SCHAKOWSKY. Thank you. According to that report which was released by my attorney general, Lisa Madigan, as well as three other Midwestern Attorneys General, they say that simple supply and demand factors can't explain the increase in prices and in fact, they talk about demand has not been surging as frequently reported in the press. Over the past 10 years it has been relatively flat. We are talking about natural gas, with a slight moderation in the winter peak. Over the past three years it has declined slightly and they have all kinds of charts to document that and what they are saying is that the Administration and

the Congress can bring down natural gas prices by better regulating the futures market and ensuring companies do not gouge consumers.

And really, this is a follow-up in some ways to Dr. Burgess's question about the role of the Federal government. These Attorneys General actually are asking for help from the Federal government to deal with price gouging and I wondered if you are aware of any instances in which oil and gas companies engaged in price gouging last year?

SECRETARY BODMAN. I am aware that there were people accused of it. There is an issue with respect to gas, so when I say there were charges with respect to gasoline; there were situations following Katrina and Rita where people were accused of price gouging.

MS. SCHAKOWSKY. Would you support giving the Federal Trade Commission legal authority to prosecute oil and gas companies that engage in price gouging? Right now it is only collusion that they are allowed to deal with.

SECRETARY BODMAN. Congresswoman, I would be happy to look at that, rather than sort of on real-time here make a commitment to that. I would rather not do that, but I would be happy to look at it.

MS. SCHAKOWSKY. I would appreciate it, as would our Attorneys General. I wanted to ask you about the LIHEAP program. I am very concerned about the--in Chicago where we haven't had a particularly cold winter. We were afraid of that, but we see that the Administration--

SECRETARY BODMAN. So was I, if I may say.

MS. SCHAKOWSKY. Right. But nonetheless, the Administration's request for LIHEAP funding was at $2.8 billion, which is $2.3 billion less than the amount authorized in the Energy Policy Act of 2005. We are very concerned in these cold weather States about this decrease. How can that be justified in this time of rising prices?

SECRETARY BODMAN. Let me, at the risk of sounding like a bureaucrat, but let me say that is not my program. It is not part of the Department of Energy, it is the Department of Health and Human Services. Having said that, I think, again, I know Secretary Leavitt and his colleagues over there who administer that and who manage that--

MS. SCHAKOWSKY. It is administered jointly, right?

SECRETARY BODMAN. No, it says jointly. I have seen that comment that we administer jointly. We do not administer jointly.

MS. SCHAKOWSKY. Okay.

SECRETARY BODMAN. They administer it and they run, they do a responsible job on it. I can just tell you that as with a lot of these things, for example, the decision that I made on weatherization, which is probably what--

MS. SCHAKOWSKY. I do want, exactly, I do want to talk about that, as well.

SECRETARY BODMAN. Weatherization is our doing and we have reduced that from about $240 million a year, which has dealt with some 90-some odd thousand homes or helped 90-some odd thousand homes, I think, to $160 million or something like that, which is roughly 60,000 homes.

MS. SCHAKOWSKY. This is one I think that really makes me scratch my head and wonder how, at a time when we want to both conserve energy and reduce prices for low-income households, how we could reduce that. We are talking about, my data tells me, about 30,000 fewer homes are receiving weatherization assistance.

SECRETARY BODMAN. Your numbers are right. That was a decision I made.

MS. SCHAKOWSKY. Why?

SECRETARY BODMAN. Well, the reason that I made it was that I had choices to make in order to bring the overall budget in at a level and that is a choice that I made so that to the extent you are unhappy with anybody, don't be unhappy with the President, OMB, or anybody else. I did that.

MS. SCHAKOWSKY. Well, I just, you know, want to go on record as strongly disagreeing with that decision.

SECRETARY BODMAN. I understand.

MS. SCHAKOWSKY. Let me ask you, finally, our Democratic Leader in the Democratic caucus has come up with an innovation agenda that calls for energy independence in 10 years. Do you see that as a possibility?

SECRETARY BODMAN. It depends on what you mean by energy independence. Does that mean that we are not going to import oil or any materials, energy materials from abroad?

MS. SCHAKOWSKY. Right.

SECRETARY BODMAN. I do not believe that would be likely, no, ma'am.

MS. SCHAKOWSKY. Thank you.

MR. OTTER. The gentlelady's time has expired. The Chair would recognize Mrs. Blackburn from Tennessee.

MRS. BLACKBURN. Thank you, Mr. Chairman, and I thank you, Mr. Secretary, for hanging with us this morning. I have got three questions and excuse the voice. It kind of comes and goes on me a little bit today. The TVA, which is there for Tennessee and sir, I know you may not have these answers at hand. If you want to get back with me on these, that is going to be fine.

SECRETARY BODMAN. I can tell you that I don't know anything about the TVA budget, but I would be happy--

MRS. BLACKBURN. Let me tell you what my question--yes. Let us talk about what these questions are. They were recently awarded $35 million in a lawsuit against DOE because they still have not started accepting and storing the nuclear waste at Yucca Mountain and what I would like to know is how many other lawsuits of this kind have been filed?

SECRETARY BODMAN. Lots. And I can get you the number.

MRS. BLACKBURN. And I would like the number.

SECRETARY BODMAN. I would be happy to get you the number.

MRS. BLACKBURN. Thank you. I would like to know how many are pending and other than that litigation, I would like to know what the Department, what their strategy is for addressing the dozens of outstanding lawsuits where utilities are really piling up millions of dollars of delayed damages each year because of inaction or whatever you all may see as the reason for that, so if you would, let us look at this. This is something that should've started in 1998 with accepting that waste at Yucca Mountain and TVA, as you are aware, sued because of the cost of building the dry cast storage to hold that waste on-site at their plants. They won that suit and I know that you all have only settled three of those.

SECRETARY BODMAN. Three cases?

MRS. BLACKBURN. Yes, sir.

SECRETARY BODMAN. Yes. My colleague just told me there are about 60 cases pending.

MRS. BLACKBURN. Okay. If we can have some specifics on that. That is of great concern to me that this would go unanswered.

SECRETARY BODMAN. You are right, sure. I would be happy to provide you with that. What we are doing is to try to move forward with the repository, that is why it is so important to get that and to manage it well, but I fear we find ourselves way behind schedule. We find ourselves with a situation that reflects poorly on the management of the Energy Department and it reflects poorly on other managements, as well, but there is plenty of blame to go around and we are doing our best to bring it back into focus and to manage it well.

MRS. BLACKBURN. And I appreciate that and if we could know a little bit about the timeline, that would be great. Continuing on the nuclear energy, one of the President's initiatives is the expansion of that and I would like to know what specific actions that you all are taking to improve the certainty of the regulatory process for new nuclear plant designs, to ensure that they can and will be built competitively and if you do not have that now, if I could have--

SECRETARY BODMAN. Oh, I can tell you that.

MRS. BLACKBURN. You can tell me that, okay, great.

SECRETARY BODMAN. If you would like to know that.

MRS. BLACKBURN. Yes, sir. Please.

SECRETARY BODMAN. We do have a program called Nuclear Power 2010, or NP 2010, which is an effort, a joint effort or jointly funded effort by the government and consortia of utilities to get to generate a combined operating and inciting a license for new nuclear utilities. We have not had a new nuclear plant in over 30 years in our country. In our judgment, we need that in order to meet the electrical demands that will be in our country over the next 20 years and so starting, I think it was four years ago, we started this program. We have had a very good response to it and the goal is to generate the combined, both operating and the operating license and the citing authority to build and start construction by the year 2010.

MRS. BLACKBURN. And does that include the lawsuit?

SECRETARY BODMAN. Yes. We are working with the Nuclear Regulatory Commission.

MRS. BLACKBURN. Okay.

SECRETARY BODMAN. We meet with them frequently and so they are aware of what we are doing and we are aware of what they are doing.

MRS. BLACKBURN. Okay, all right. Thank you. I have one other question and I will just post it. I am not going to ask for an answer, but I think going back to our domestic supplies with ANWR in the outer continental shelf and what the President's intentions and priorities there and I want to be respectful of others' time, so I will just wait to hear back from you on that and I thank you, sir, for your time.

SECRETARY BODMAN. Thank you very much.

MR. OTTER. The Chair recognizes the gentleman from Pennsylvania, Mr. Doyle.

MR. DOYLE. Thank you, Mr. Chairman. Mr. Secretary, welcome.

SECRETARY BODMAN. Thank you, Mr. Doyle.

MR. DOYLE. Mr. Secretary, as one of the few Democrats up here that actually voted for this Energy Policy Act, I have to tell you, and as someone who thinks the goal of energy independence is probably the most important mission that our country has and the most important thing we can do for our kids and grandkids, to see this budget is extremely disheartening and disappointing and I think Chairman Barton, on his first question to you, just hit the nail right on the head.

We are in a situation where to tell the American people that we are going to strive towards energy independence is just not something that is not only not possible in 10 or 15 years, it is not going to be possible in 100 years if we don't have the financial resources to put into it and quite frankly, we find ourselves in the situation that we are in because the

American people are going to have to realize that they can't have their tax cuts and these investments, also.

We are staring at deficits as far as the eye can see and if this Administration and Members of Congress are wedded to the idea of making these tax cuts permanent, we are going to be looking at huge deficits for the next 10 to 15 years which are going to make it virtually impossible for us to make the kinds of investments we need to make to continue the research and to move forward these technologies to lessen our dependence on foreign oils. And it doesn't matter who the Secretary of Energy is and it doesn't matter who the President is, whether the next President of the United States and the next Secretary of Energy are going to be sitting up here playing the same shell game that you are being forced to play until we provide some real resources to these programs.

I just want to ask you one question and it gets back to what Chairman Barton talked about, too, when we talk about the shell game that is going on. Your Department has repeatedly discussed the importance of the Department's Fossil Energy Research Program and the National Energy Technology Laboratory in helping change the outlook for America's energy future by placing more reliance on the massive coal reserves and leading the drive to eliminate pollution and greenhouse gas emissions over the coming decades. And I agree with these assessments of the fossil energy program and the NETL's key role.

Once again, we are just concerned that we are saying things but we are not following up with the funding when it comes to fossil energy and the NETL to achieve the goals. Let me give you some reasons for my concerns and I would like to ask you to respond to these, please. The proposed budget for the Fossil Energy Clean Coal Power Initiative is only $5 million, which is down from the $50-$100 million that has been appropriated over the past several years. The fossil energy, oil and gas budget is going from $60 million in FY 2006 to a proposed zero budget in fiscal year 2007. The general plant project budget at the NETL is being zeroed out. If we don't address these significant infrastructure needs of the laboratory, we are going to compromise key operational capabilities, as well as safety, at NETL's two major sites in Pittsburgh and Morgantown.

And the $22 million cut in the NETL program direction budget would require layoffs of up to 200 laboratory Federal and contract personnel in the early fall of this calendar year. Can you help me understand how these unusually large budget cuts that are being proposed by the Administration mesh up with the increased mission responsibilities and expectations for the Department's fossil energy program and the NETL to support a better energy future for our country?

SECRETARY BODMAN. Oil and gas, as I have said before, with $60 oil, for owners of reserves to develop new methods of producing those reserve, CCPI $5 million, the background of that is, at least the way I view that, the hiatus, we have an unusually large amount of unspent balances in that account that have been there. The OMB people looked at it, I think they were right. They have observed that those balances, we ought to get those projects that have been started in the past up and going before we start putting more money in it.

We have two rounds of CCPI that have been funded and the monies simply haven't been spent and so that is what this is, if you will, a hiatus, waiting a year, putting a pause in the system and waiting until next year before we add other monies, before we can start a solicitation which would occur, presumably, in 2008. With respect to NETL, I think that is an accounting change. To my knowledge, there is not a change in the budget for NETL and I will be happy to look into that and I would be happy to get back to you, but I am unaware of any perspective layoffs that occur at NETL.

MR. DOYLE. Thank you.

SECRETARY BODMAN. There has been a change in the accounting that we were required to do by moving the accounting for some of the personnel and leadership group or administrative people from one account to another, I think.

MR. DOYLE. Could you get back to me in writing on that?

SECRETARY BODMAN. I would be happy to do that.

MR. DOYLE. Thank you.

MR. OTTER. The other gentleman from Pennsylvania, Mr. Murphy.

MR. MURPHY. Thank you. Thank you again, Mr. Secretary. I want to follow up on some of these questions being asked about the Clean Coal Initiative issue because they are extremely important. The NETL, the National Energy Technology Laboratory is in my district. It splits its funding with the Morgantown plant, too. And I have similar concerns about the clean coal. I understand the issue you are saying that they are backlogged in terms of some of those contracts.

SECRETARY BODMAN. Right.

MR. MURPHY. But I look at it this way; as water is flowing through a hose, if you turn it off at some point, yes, the water has a chance to go forward, then you have a big gap there and what I see as part of this, that these, the backlog in contracts, if we stop it this year, then that means there will be no funding for other contracts. Part of this problem is going through these contracts, approving them, the laborious bureaucratic process is not something that can be done in a year and so if we cut off this funding down to $5 million, which is basically below a maintenance

level, it seems to me, then we will have more years before we can go forward on this.

What I see is that, with the Clean Coal Initiative, is that there is so much that can be done, we are so close, the research is very promising on all this and I understand the need to push for the FutureGen. I mean, I would like to see both actually funded and I go back to my opening comments that it sickens me when I see us funding both sides of the war on terror that, and when we see other countries like Iran rattling their saber by saying we are just going to turn off the oil on you Americans and watch us sweat as oil prices go up and watch what happens with the vulnerability we will have with other nations as we deal with natural gas prices, as well. For me, and I heard the comment to the Chairman earlier and so many of us here in the committee, this issue on clean coal, I just think is critically important to continue to fund and I want to go on record again. To me, it is a major issue in approving any part of this budget.

The other issue has to do with--I would like some more information on this one and that has to do with the Oil and Gas Research Program, because this is also critically important here on what we can be doing on this. I think it is a real crippling blow to zero it out and I would like some sense from you where you think that places us. Is that putting us at some risk for future research? How are we going to make up for that?

SECRETARY BODMAN. This is in terms of oil and gas research?

MR. MURPHY. Yes. In the past, I know NETL received $65 million for the natural gas and oil programs; $33 million for natural gas, $32 million for oil and I see it being zeroed out now.

SECRETARY BODMAN. We will be happy to respond, you know, I think the approach that the President has used and I have heard him say it, that there is a lot of incentive for producing more oil and more gas. We have had extremely high prices, as you are well aware and your constituents are well aware and therefore when we start looking at how we should allocate public funds, that is a tough sell in terms of supporting oil and gas research. I don't think it puts us at any risk, but I can understand that you hold a different view.

MR. MURPHY. Indeed, I do. Let me shift to one other question here in the time I have remaining. This has to do with the designating national interest transmission corridors and the regional transmission organizations, the RTOs, like PJM is one that handles Pennsylvania, New Jersey, Maryland, Ohio, and other areas.

SECRETARY BODMAN. They are well-run organizations, by the way. They are very effective.

MR. MURPHY. I think they are too, yes.

SECRETARY BODMAN. Yes.

MR. MURPHY. Well, I just want to have some sense of what the Department of Energy is going to be doing to help work on incorporating the work that the RTOs are doing in the corridor designations. I mean, my assumption is we need more transmission lines to help with our grid performance. I want to have a sense of what the Department of Energy is going to be doing to help with that work.

SECRETARY BODMAN. Well, we are required under the EPAct to prepare a report for Congress, I think by August 6 or sometime that first week of August, and we expect to be able to accomplish that. We will be meeting with RTOs; they were in my office, matter of fact, last week. The PJM folks that you referred to are folks who would also be meeting with their counterparts in Canada, which we run a unified electric grid that crosses the border in a seamless fashion between Canada and the United States, and so we will be working with our Canadian counterparts. So we will be following through and analyzing the congestion that exists or doesn't exist in various quarters. The initial signs that I saw were in the eastern States and in Pennsylvania, in particular, we need more north and south transmission and not as much east and west, and that that was going to be a real help. At least, that was the preliminary thinking that I heard. But suffice it to say, we are working at it and we will provide a report and we will report to you and the other members of this committee.

MR. MURPHY. I would appreciate it if you could stay in touch with me, as well.

SECRETARY BODMAN. There is also, if I could just add, there is the provision in the bill that if we find there is an emergency of some kind, if we find we have something that requires more immediacy in terms of its actions, there is a provision in there to do that and we are mindful of that, as well.

MR. MURPHY. Thank you.

MR. OTTER. The gentleman's time is up. Mr. Stupak.

MR. STUPAK. I thank you, Mr. Chairman. Mr. Secretary, earlier this morning when I gave my opening, I talked about gas prices and I had indicated that the refineries have increased their prices 255 percent from September 2004 to September 2005. As Secretary of Energy, would you know what factors go into a 255 percent increase at the refinery level for a gallon of gas?

SECRETARY BODMAN. Do I know what the costs are that go into it?

MR. STUPAK. What factors went into it which would cause a 255--

SECRETARY BODMAN. Largely, oil prices.

MR. STUPAK. So just the price of oil?

SECRETARY BODMAN. The price of oil is roughly two-thirds of the price of gasoline, I think, you know, when you start looking at running a

refinery. I don't remember exactly, but we can certainly get you that if you would like to have those figures.

MR. STUPAK. Well, I would and that is why we have been asking for hearings because, you know, even a cubic foot of gas, which has gone up 23 percent in the last year; home heating, 24 percent over--if inflation is about 3 percent, why would these items go up 23, 24, 25 percent?

SECRETARY BODMAN. I think you will find, unfortunately, that corresponding with my arrival as your Energy Secretary, sir, and that seemed to correspond to a rise in worldwide oil prices.

MR. STUPAK. Well, I don't think we can blame you just for the rise in oil prices.

SECRETARY BODMAN. Well, there are those who do, but anyway, that is a different matter. I am just saying that we have had a huge escalation in oil prices and I think you will find it is largely the reason for the changes in gasoline prices.

MR. STUPAK. Sure, and when you mentioned to Mr. Murphy, you were talking about how our constituents are painfully aware and then when you say, you go home and they say why is it so high, what factors go into it, and I say well, I know 8 to 9 percent was the exploration.

SECRETARY BODMAN. Right.

MR. STUPAK. Five to 8 percent was the distribution, but 255 percent was the refinery. Well, why is that? And that's what our constituents want to know.

SECRETARY BODMAN. We would be happy to provide that for you.

MR. STUPAK. Thank you. The weatherization program, I know I spend a lot of time on it, but I gave you the copy of the heating bill there for my Oscoda high rise.

SECRETARY BODMAN. Yes.

MR. STUPAK. Underneath the weatherization program, a lot of that is replacing windows and things like that, so this high rise here where we had this dramatic increase in price for heating, if the weatherization program is cut 30 percent, how do they go about trying to make their building more efficient or trying to do something so they don't have $12,000 heating bills next year, when the weatherization program, which was already under-funded, was cut by another 30 percent, you can see the point we are driving at?

SECRETARY BODMAN. No, no. I understand what you are driving at. There are things that all of us can do, including these individuals for whom you sent me the bill or with the bill here, you can do to save energy. There are a lot of things that we can do without spending a lot of money and for example, light bulbs. You can buy light bulbs that use about a third of the energy that normal light bulbs and there are other

things that you can do without spending a lot of cash that we have advocated and continue to advocate that people pay attention to.

MR. STUPAK. Well, I will be interested in seeing what their bill is for last month because last month we had air temperatures of 45 below up there. December was a pretty mild one, so I am really waiting to see what those bills are.

SECRETARY BODMAN. I am sure that is right.

MR. STUPAK. Let me go to the GNEP program, if I may.

SECRETARY BODMAN. Sure.

MR. STUPAK. It is my understanding that this initiative that us and other nuclear producing companies or countries, excuse me, are putting, are entering into a partnership to sell advanced nuclear power plants and technology and the countries would lease the fuel for use in these plants and when the fuel is spent, it would be sent back to the country of origin. Is that correct?

SECRETARY BODMAN. That is correct.

MR. STUPAK. So like in the agreement with India, this is part of this GNEP?

SECRETARY BODMAN. No, sir.

MR. STUPAK. Okay. If the United States entered into these agreements, the spent fuel rods would come back here. What would we do with them, then, if Yucca Mountain is not up and running? We already have a problem with storage.

SECRETARY BODMAN. Well, first of all, the GNEP program is a multi-decade program. This is going to be just developing the chemistry, we can recover the transuranics, developing the fast reactor, developing the fuel manufacturing, developing the fuel recycling. It is going to be 20 years, 15, 20 years.

MR. STUPAK. We don't recycle in this country. We only reprocess rods.

SECRETARY BODMAN. I understand. But it is our view that we need to because 90 percent of the energy that is in a spent fuel rod is still there and the problem is it is in a different chemical form and so we need to recover it.

MR. STUPAK. You can reprocess 97 percent of a rod?

SECRETARY BODMAN. That is the goal.

MR. STUPAK. So would you be advocating overturning the Carter Administration initiative against reprocessing spent fuel rods in this Nation?

SECRETARY BODMAN. No, what we are advocating and as proposed to Congress in this budget is the GNEP program, which is specifically reprocessing and so to answer your question, when fuel is spent, that has been sent to another nation, it is sent back to the nation from which it

came, it would be reprocessed and it would be from that reprocessing you would produce a mixture of transuranic elements which would be used as a fuel in a fast reactor which would exist in the country of origin, the first country that created it and therefore we could burn it, gradually burn the so-called actinides of the transuranics and produce energy from that, that is the goal.

MR. OTTER. Mr. Green of Texas.

MR. GREEN. Thank you, Mr. Chairman, and I regret I am so late because I wanted to follow my colleagues in your questioning earlier lamenting the damage to our Nation because the rigs in the Gulf of Mexico were down and the pipeline is down and a lot of us are not--I am from Houston and so that is how we make a living there.

SECRETARY BODMAN. I am aware of that, sir.

MR. GREEN. And it is interesting because so many of the folks, particularly from California, are concerned about it since they don't want to produce or drill off their coast and the question for my colleague from New Hampshire about MTBE, we fought in this committee for six years and finally in the energy bill it was prevailed upon to eliminate MTBE, basically. And so now it is no secret that we found out that MTBE, we will have to replace that with gasoline or ethanol.

SECRETARY BODMAN. Ethanol, yes.

MR. GREEN. And we don't have the infrastructure yet for ethanol although, again, we have talked about it for six years in this committee and ethanol is not as easily transported as MTBE. You can't pipeline, so I have asked, in fact, yesterday morning I met with my chemical manufacturers in my district and I said I hope we have some vacant land so we can put ethanol plants up next to these chemical plants, the refineries that we have in the Houston area.

SECRETARY BODMAN. And what did they say, if I may ask?

MR. GREEN. Pardon?

SECRETARY BODMAN. What did they say, if I may ask?

MR. GREEN. Well, you know, I am going to encourage them to invest in it and maybe we might have to have a second energy bill to see if we can build more ethanol plants. Congressman Shimkus and I have battled this for many years and I realize now there are more farmers than there are oil producers, so now we are going to have to bring your corn down or whatever else so we can make it into ethanol.

But let me talk about some of the questions in the Energy Policy Act that I thought was real important. There was a number of loan guarantee programs for clean coal and new nuclear generation, new renewable technology is also included. Petroleum co-gasification is technically feasible technology, but no one has been commercially successful yet,

and I support the technology because it turns a waste product into electric generation which displaces the use of our valuable natural gas.

As a former chemical company executive you probably know better than any of us the importance of affordable natural gas to our Nation's chemical industries and its workers. When will the Department's loan guarantee program become operational and can you tell us about how they work? And I am particularly interested to know if these loan programs are going to be self-financing, where the companies put up the risk insurance premium, because I am not clear on what the benefit of a loan guarantee program is without risk insurance also.

SECRETARY BODMAN. First of all, we are working hard on the loan guarantee program and getting it set up and functioning. It is a very important part of the policy act. The expectations of Congress are very significant in this, of the output of this program. I have a concern that we do it well. This is not an area where the employees of the Energy Department are necessarily skilled, that is to say to make judgments on which chemical process do you use, which particular plant.

It is more like running a bank than anything else or a commercial bond operation where you are trying to make evaluations of different approaches. So we are trying to be careful in setting it up. We are probably going to narrow the scope of it to fund just some types of processes in the beginning so that we can get the systems in place that will enable us to manage this in a responsible manner. This is taxpayer money, eventually, that is going to pay for all this and we need to be careful about it. So that is the first comment.

Secondly, we have been approached by a number of people already, and I presume you have and others in the Congress who are knowledgeable about this and, we are going to be, hopefully, be able to run this by guidelines. I guess that is the other point I wanted to make. There are two general ways we can do this. One is to set a series of guidelines which is a more informal approach and could be accomplished by this summer. Within the next two or three months we should be up and functioning.

If we are required to issue rules or regulations, that is over a year and it is going to be the summer of 2007, not the summer of 2006 before we are functioning. So we are doing our best. We have told OMB that we want to function with guidelines, not rules. They are reviewing that. We will see how that all comes out, but I am hopeful that would be the case. We should be functioning, I would think, this summer and assuming that that goes well and that we would be in a position to start this program. But it is going to take a while and we are going to have to get it staffed. We don't have the people in place to function.

MR. OTTER. Mr. Inslee from Washington.

MR. INSLEE. Thank you. Mr. Secretary, this budget is disappointing to me, but I really believe it will be an outrage to subsequent generations and the reason is it really dooms us to failure to achieve either energy independence or any meaningful reduction of greenhouse gases. I have listened carefully to the testimony and I think a fair description of the investment in clean fuels would be charitably described as chump change. You have proposed $149 million for biofuels, which is less than 2 percent, to put this in perspective, of the $7 billion of royalty relief that the Administration currently wants to give to the fossil fuels industry and oil and gas from public lands. You have not done anything to require flex fuel vehicles, which Brazil has indicated would be successful or actually making sure that ethanol is available once we have flex fuel vehicles.

You have done nothing to limit CO_2 to have a cap, a meaningful cap. We really are doomed to continued failure under this budget and it is extremely disappointing in that regard. I want to ask you about something that affects the Northwest and that is your efforts, your Administration efforts to increase our energy rates in the Northwest. You are proposing an energy rate increase for the Northwest ratepayers of about $924 million. It would result in about a 6 to 10 percent increase. Over 10 years it will cost us, it has been estimated at a minimum of 1120 jobs in the Northwest.

These are your suggestions, even though the BPA has voluntarily retired $1.6 billion of debt and the reason you are telling us that you want to foist this rate increase on the Northwest is that you have argued that it is good for the Northwest that if we make early payments on the debt, a payment of which we have never missed, this will somehow free up our efforts for other equity. And while we respect your efforts to give us advice, no one in the Northwest agrees with that, and I just want you to know one of the reasons we don't agree with that. We have seen this movie before, how this Administration has treated the Northwest. When we went through the Enron debacle and pleaded with the Vice President for help, he just told us, effectively, to go fish. And Enron ran rampant and took a billion dollars of the West Coast economy.

And now we see today those people on trial and I noticed one of them yesterday said yes, I admit we were stealing money from people, yes, right. They were stealing money from the Northwest and my rate payers and your Administration, prior to you, I may note, prior to your coming on board, allowed that theft to go unchallenged, unchecked. So we look at this Administration's efforts to increase our energy rates now as sort of an adding insult to injury, a second blow of a continued consistent pattern of leaving us out to dry in the Northwest on energy rates.

And my question will sound more rhetorical than anything, but I think it is appropriate in these circumstances and where we have always met our commitment on the debt to the Northwest to the BPA; where we have been good, solid partners with the Federal government; where we have experienced this pillaging already of our rate payers through the depredations of Enron and the likes; where the Administration did not help us on that; doesn't it appear just a little bit arrogant for the Administration to tell us in the Northwest what is good for us when it comes to the BPA debt repayment?

SECRETARY BODMAN. Congressman, I can't speak to the vast array of subjects that you have just raised. I can speak to BPA and to the impact of the proposal on BPA, which as a businessman, I would consider to be a prudent thing. What has been proposed is, that I am sure you are aware, that if BPA is successful in selling energy to adjacent utilities and generates more than a half a billion dollars of income, untaxed income, which would end up going to rate relief, the first half a billion dollars goes to reduce the rates of BPA customers, which, as you are well aware, are already quite low relative to the rest of the country.

And the proposal is that if anything above that half a billion dollars is accomplished, that that should be used to pay down debt, such that if one, the day after you paid it down, if the executives of BPA wanted to avail themselves of more credit, they could borrow it back and put the money to work if they have capital projects to put to work. So I think it is a reasonable and a responsible action that has been proposed, simple as that. And so I can't speak to the moral indignation that is a part of your comment, but I can speak to the business practices that I think for which this makes sense.

MR. INSLEE. Just briefly, I can just tell you that businessmen that I talked to in the Northwest, some that have had somewhat successful businesses in the Northwest--

SECRETARY BODMAN. I am sure there are.

MR. INSLEE. --think it is an absolute travesty that you are trying to do this. I will submit some questions for the record to Mr. Chair and I hope that you will graciously answer them. Thank you, Mr. Bodman.

SECRETARY BODMAN. I will be happy to do it, sir. Thank you.

MR. OTTER. Mr. Secretary, would you respond to a question from the Chair? My understanding is that you have to leave at one o'clock.

SECRETARY BODMAN. That is the case.

MR. OTTER. Thank you, Mr. Secretary. The chair would now recognize himself. There are a lot of questions that I have that Mr. Inslee already touched on and I would like to submit those to you in a letter, and Mr. Engel, I hope not to wait too long for your response.

SECRETARY BODMAN. No, we will try to do it as promptly as possible.

MR. OTTER. Mr. Secretary, being from Idaho, you can expect that I have a great hope for nuclear energy and the role that the Idaho National Laboratory can play in that. But I am also aware that the future of nuclear energy is really dependent upon how well we overcome our sins of the past and especially with regards to the nuclear waste problem. And so I got a two-part question here.

Number one, in your budget we appear to be taking away from sites such as the Idaho site on cleanup where we have had great success, good progress, and then that money is going to sites that have not have had as good progress. I would think a victory on cleaning up nuclear waste like we could have in Idaho should we sustain the present commitment that we have to that, money wise, it would be something that we could shine our badge a little bit and say see, here is how well we can take care of the problem. That, plus the fact, the second part of my question deals with in another committee, I think it was either yesterday or the day before, you mentioned that your Administration, the Department of Energy, does not necessarily agree with commitments that were made by past administrators, or Secretaries of the Department of Energy and maybe, perhaps, you don't feel compelled to keep those commitments.

Some of those commitments, Mr. Secretary, I would remind you, are not gentlemen's agreement. It wasn't a nice deal that two people made because rational minds were meeting. Those were actual contracts and contracts that are now being challenged and so on two fronts, before I think we can advance the possibilities, the potential of nuclear energy, we have got to clean up the sins of the past. And the second part is before we can really advance any of this, I think we need to clean up the image of the Department of Energy and the image of the Department of Defense, which you don't have that much to do with, I understand, before we can finalize the cleanup and move forward to the future that we have with nuclear energy. So my question is, number one, what about the switching of the money to where we have had progress, from places where we have had progress, to places where we haven't had as good progress, and number two, what are we going to do to clean up this image that at every whim or every new Secretary or every new Under Secretary we suddenly shift in our focus and we shift in our commitments of the past?

SECRETARY BODMAN. Any written agreement, any contract that this Department has, we do our absolute level best to honor, sir, and there are differences of opinion between residents of Idaho, yourself in particular, as I have read in your news release, and our Department over what the nature of that contract was and we are now in litigation, as you are

aware, which hopefully one of these days will be resolved one way or another and we will be able to proceed. But we do try to honor and I assure you that, it is like honoring the commitments that Congress has made and we try to honor those and try to do our best to do them.

With respect to the budget and shifting money around, what we attempted to do in the Environmental Management budget, first, we have been successful in cleaning up some sites. I mentioned them in my introductory remarks. Rocky Flats is now cleaned and is now--that had been a major, pit manufacturing facility and it is no longer. It has now been returned to the Department of the Interior or soon will be; Fernald; Columbus; Sandia. We have had some successes and I think, rightly, we have attempted to take credit for it.

In terms of construction of this particular budget, these are very difficult tradeoffs that we have made and I appreciate your way is one of characterizing it. The way I would characterize it is we have attempted to put the money in those areas where we are at highest risk and where there is the greatest risk to the environment and that, in particular, has been the pit plant at Hanford, which has been a major management problem for this Department, for the State of Washington and that is one which I think we made the right choice.

MR. OTTER. The Chair's time is up. Mr. Secretary, as per our agreement, we agreed to--

MR. MARKEY. Mr. Chairman?

MR. OTTER. Yes.

MR. MARKEY. May I ask unanimous consent to be allowed to ask a couple of questions at this point?

MR. OTTER. The chair would remind the gentleman from Massachusetts that we have agreed that we could get the Secretary out of here at exactly one o'clock.

MR. MARKEY. And we have five minutes left up there.

MR. OTTER. And I would ask the Secretary if he minds?

SECRETARY BODMAN. No, no. I would be happy to hear from Mr. Markey.

MR. OTTER. The Secretary doesn't mind. The gentleman's request is agreed to without objection. The Chair would recognize the gentleman from Massachusetts.

MR. MARKEY. I thank the Chairman very much. Mr. Secretary, you say in your statement, as part of the GNEP strategy, the United States will work with key international partners to develop and demonstrate new proliferation resistant technologies to recycle spent nuclear fuel to reduce waste. In this proposed budget you are requesting a $250 million down payment on what looks like to be a $4.5 billion GNEP effort over the next five years merely to demonstrate an engineering scale, the urex-

plus process for spent fuel reprocessing. Urex, I am told, stands for Uranium Extraction, but it really seems like it should stand for You Are Expensive. So I have to ask you, Mr. Secretary, what is it specifically about the urex-plus process that persuades you that it represents an improvement in proliferation resistance worthy of such a large expenditure?

SECRETARY BODMAN. You recover plutonium, neptunium, cerium and americium. Those are called transuranic elements. You recover them as an alloy, as a blend, and therefore you produce materials which, as opposed to the purex process, which is used in France and Russia, among other places, in that process they recover pure plutonium, which is the reason we have so much plutonium in the world today and that is what presents the proliferation risk. That is why this process, we think, is something that should be considered.

MR. MARKEY. Now, would you agree that the plutonium in the Urex separated product is inherently less cell protected by radiotoxic vision products against theft and diversion than plutonium that stays in spent fuel?

SECRETARY BODMAN. No. I can't say that. Perhaps your staff member knows, but I don't happen to know the answer to that.

MR. MARKEY. Obviously, if it stays in current spent fuel, then it is totally proliferation resistant.

SECRETARY BODMAN. Well, it is proliferation resistant in the sense that it can be processed and from that one can recover pure plutonium, which is what the Iranians are presumably planning to do.

MR. MARKEY. Well, a recent scientific analysis has concluded that the Urex separated product has a radiation dose rate three order of magnitude lower than the IAEA threshold for cell protection. Would you agree that a material that is three orders of magnitude below the IAEA levels isn't really cell protected?

SECRETARY BODMAN. No.

MR. MARKEY. Okay. So are you aware that the critical masses of the transuranic elements separated together with plutonium in the Urex processes are larger than plutonium and excellent nuclear weapons material, but smaller than U235, also an excellent nuclear weapons material? So from a critical mass perspective, it is my understanding that the Urex product is intermediate between these two excellent nuclear weapons materials? Could you explain to me how that increases our proliferation resistance?

SECRETARY BODMAN. It is my position that the use of the Urex process is not useful to making a nuclear weapon.

MR. MARKEY. To achieve the reductions and heat loading of nuclear waste requiring long-term isolation in a permanent repository, I am

informed that you are going to need a lot more than your requested urex-plus demonstration plant. In fact, to credibly deliver on its forecast benefit for waste management, it has been estimated that your GNEP program would require the next 100 or more new commercial reactors worldwide to be fast reactors. In the United States alone this adds an extra $80 billion to $100 billion requirement for 20 to 25 fast reactors just to transmute the fuel discharged from existing U.S. power reactors globally. This would add hundreds to billions of trillions of dollars to the cost of nuclear generator electricity.

SECRETARY BODMAN. I disagree with that statement, sir.

MR. MARKEY. Thank you. I will leave it at that.

MR. OTTER. Thank you, Mr. Markey. Mr. Secretary, once again, thank you very much for your attendance here.

MR. ENGEL. Mr. Chairman, I am not going to ask a question, I was just wondering if I could just, for the record, take 30 second to--I am going to submit my questions, but I just want to, for the record, to just mention the Department's budget proposing $42 million for the 21st Century Truck Partnership, which is an initiative aimed at increasing--

MR. OTTER. Mr. Engel, the committee made a commitment to the Secretary and the Secretary needs to leave now. If you want to submit a question--

MR. ENGEL. Okay.

MR. OTTER. The Secretary has agreed to answer all questions. Mr. Secretary, thank you once again very much for your attendance here.

SECRETARY BODMAN. Okay.

MR. OTTER. This meeting is adjourned.

[Whereupon, at 1:01 p.m., the committee was adjourned.]

RESPONSE FOR THE RECORD BY SAMUEL W. BODMAN, SECRETARY, U.S. DEPARTMENT OF ENERGY

QUESTIONS FROM CHAIRMAN BARTON

Energy Efficiency

Q1. Last year during the Congressional debate over EPAct 2005, there was quite a discussion about the timetable for DOE to issue energy efficiency standards for a number of appliances. Many of the standards were years behind schedule. Recently, DOE submitted a report to Congress showing how DOE was going to issue all of the energy efficiency standards. Is the 11% increase in the budget for the Building Technologies program, which sets these standards, sufficient to meet that commitment to Congress? Is there anything else that DOE needs from Congress to meet its commitments?

A1. The increased funding request for FY 2007 as shown in the table below is in direct response to the new requirements of EPAct 2005 and will also allow the Department to address the backlog of rulemaking activities. In FY 2007 the

program will complete action on rulemakings started in FY 2005 and prior years, and will continue work on the 13 product standards and test procedures initiated in FY 2006.

Funding Summary (dollars in thousands)

Program/Activity	FY 2005 Approp.	FY 2006 Request	FY 2006 Approp.	FY 2007 Request	Approp. Vs Request
Equipment Standards and Analysis	$10,147	$8,256	$10,153	$11,925	+$1,772

A complete schedule of activities, with dates for publication of proposed rulemakings and other milestones, is contained in the report to Congress as required by Sec. 141 of EPACT 2005. The Department's proposed activities in FY 2007 represent firm and achievable schedules for very important and complex rulemaking activities that will have significant energy savings benefits for the Nation. The Department's FY 2007 budget request reflects the resources needed to ramp up this activity and remain at a high level of output for several years until the backlog of rulemaking activities is addressed.

Solar

Q2. The Solar America Initiative will promote deployment of 5,000-10,000 MW of electricity generated by the sun. This seems to be a very ambitious goal; what is DOE's plan to meet it? Does this program include both photovoltaic and solar concentration technologies?

A2. While the SAI will support both photovoltaic (PV) and concentrating solar power (CSP) technologies, the focus of research funding will be on PV technology. New competitively- awarded, industry-led partnerships will be funded to aggressively improve cost, performance, and reliability. SAI will use a systems-driven approach, rather than focusing on incremental improvements to solar system components. Aggressive milestones and metrics will be used to monitor progress. The program will also use periodic down-selects to focus only on pathways with the best outlook for success.

The technology goal is to produce levelized cost of power from 5 to 10 cents per kilowatt-hour, depending on the location and application. We believe that if we continue to reduce costs steadily and meet this 2015 target, and if State incentives and programs continue to accelerate deployment, as much as 5,000 to 10,000 additional MW could be deployed. The Solar Program intends to work closely with the Building Technologies Program, the Office of Electricity Delivery and Energy Reliability, Office of Science, States, cities, utilities and industry to accomplish its goals.

Advanced Vehicles

Q3. What is the current status of the advanced vehicle program authorized in Sections 721-723 of EPAct 2005?

A3. Sections 721-723 authorize the Department of Energy to establish a competitive grant pilot program for the demonstration of a number of types of alternative fuel and other advanced technologies vehicles.

The Department did not request funds to implement this Section of EPACT. As noted in the Statement of Administration Policy (SAP) submitted to energy bill conferees on July 17, 2005, "The House and Senate versions of H.R. 6 also include authorization levels that in many cases significantly exceed the President's Budget. These authorizations set unrealistic targets and expectations for future program –funding decisions." House and Senate SAPs contained similar language.

The Department prioritized activities, including those authorized under EPACT, that would most contribute to the goal of reducing America's growing dependence on foreign oil. The 2007 Budget reflects the Department's priorities.

Coal

Q4. EPAct 2005 contains not only the incentives for Innovative Technologies Title (Title XVII), but other loan guarantee programs in other titles of the Act. What is the current status of the loan guarantees for petroleum coke gasification projects? Has an office been created within the Department to handle the implementation of the loan guarantee programs? When will the application process for the loan guarantee programs begin?

A4. The Department of Energy (DOE) has established a small loan guarantee office under the Department's Chief Financial Officer. In implementing the program, we will follow the Federal Credit Reform Act of 1990 (FCRA) and Office of Management and Budget (OMB) guidelines, and we will emulate "best practices" of other federal agencies. Toward that end we are drafting program policies and procedures, establishing a credit review board, and are planning to employ outside experts.

Title XVII authorizes DOE to issue loan guarantees for projects that avoid, sequester, or reduce air pollutants and/or anthropogenic emissions of greenhouse gases, and "employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." Section 1703(b) lists some specific categories of projects that are eligible for these loan guarantees, including petroleum coke gasification. Title XVII, in contrast to Title IV, allows for project developers to pay the cost of loan guarantees issued by DOE. While this "self pay" mechanism may reduce the need for appropriations, it does not eliminate the taxpayer's exposure to the possible default of the total loan amount. Therefore, DOE's evaluations of applications will entail rigorous analysis and careful negotiation of terms and conditions.

FCRA contains a requirement that prevents us from issuing a loan guarantee until we have authorization to do so in an appropriations bill. We do not believe we have authority to proceed with an award absent having the necessary explicit authorization in an appropriations bill.

Q5. How does the decrease in the funding request for University Coal Research compliment the Administration's commitment to increasing American competitiveness in science, math, and engineering through greater educational opportunities and enticements?

A5. The small decrease (approximately 7%) in the funding request for the University Coal Research (UCR) program will not change the Administration's commitment to increasing American competitiveness in science, math and engineering through greater educational opportunities and enticements. The small decrease in UCR funding in materials, sensors and controls, and modeling, is offset by increases in other, higher priority areas.

Ethanol

Q6. In your testimony, you mentioned the FY2007 Budget proposes $149.7 million for the Biomass and Biorefinery Systems Research and Development (R&D) Program to support the new Biofuels Initiative to develop cost competitive ethanol from cellulosic materials by 2012. What is the status of the loan guarantees for projects that demonstrate the commercial feasibility and viability of producing cellulosic biomass ethanol (Section 1511 of the EPAct 2005)?

A6. The Department of Energy (DOE) has established a small loan guarantee office under the Department's Chief Financial Officer. In implementing the program, we will follow the Federal Credit Reform Act of 1990 (FCRA) and Office of Management and Budget (OMB) guidelines, and we will emulate "best practices" of other federal agencies. Toward that end we are drafting program policies and procedures, establishing a credit review board, and are planning to employ outside experts.

Title XVII authorizes DOE to issue loan guarantees for projects that avoid, sequester, or reduce air pollutants and/or anthropogenic emissions of greenhouse gases, and "employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." Section 1703(b) lists some specific categories of projects that are eligible for these loan guarantees, including "renewable energy systems". Technologies that produce ethanol from cellulosic biomass may qualify as renewable energy systems. Title XVII, in contrast to Title XV, allows for project developers to pay the cost of loan guarantees issued by DOE. While this "self pay" mechanism may reduce the need for appropriations, it does not eliminate the taxpayer's exposure to the possible default of the total loan amount. Therefore, DOE's evaluation of applications will entail rigorous analysis and careful negotiation of terms and conditions.

FCRA contains a requirement that prevents us from issuing a loan guarantee until we have authorization to do so in an appropriations bill. We do not believe we have authority to proceed with an award absent having the necessary explicit authorization in an appropriations bill.

Gas Hydrates

Q7. One of the best ways to decrease our dependence on foreign sources of oil is to increase our domestic production. In your budget proposal, you are terminating the Petroleum-Oil and Natural Gas Technologies programs. This would terminate all existing DOE methane hydrate research. In addition, you do not appear to have allocated appropriation funding for your Congressionally directed obligations under EPAct 2005 Section 968 to develop a methane hydrate research and development program. The United States Geological Survey estimates that natural gas hydrate resources in-place total over 300,000 trillion cubic feet (TCF). As you know, technology to extract this resource is in a very early stage and private industry cannot afford to shoulder the burden. How do you justify that this type of research is no longer necessary? What happens to the limited research that has been done? Will it be lost in the termination?

A7. The decision to terminate the gas hydrates program reflects a strategic assessment of the program compared to other DOE programs. This is in line with our commitment to deliver results for the American taxpayer. The 2007 Budget's proposals to expand access to oil and gas resources, streamline permitting processes, and make the R&D investment tax credit permanent are better ways to increase domestic production of oil and gas than federally funded R&D. Several other government agencies, specifically Minerals Management Service (MMS), U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), and Naval Research Laboratory (NRL), support gas hydrate-related research that is relevant to their missions, focusing on resource characterization and basic research, rather than exploration and production. Some private sector companies are also investigating this potential resource. The results of all R&D completed by the Congressionally directed methane hydrate program will be publicly available to the research community and industry.

Oil and Gas

Q8. In your FY 2007 congressional Budget Request, you propose a repeal of the Ultra-deepwater and Unconventional Natural Gas and Other Petroleum Research and Development Program (the "Ultradeep Program") enacted pursuant to the EPAct 2005. As you are aware, a letter dated February 15 stating our concerns about repeal of the Ultradeep Program was sent t you. Since the Ultradeep Program is a federal law and has been directly funded pursuant to that law, please explain where DOE is in its implementation of the Ultradeep Program and your full 2006 schedule for full implementation.

A8. The Department is complying, and will continue to comply, with the Energy Policy Act. In compliance with the Energy Policy Act, on November 4, 2005, the Department issued a solicitation for administration of the Ultra-deepwater and Unconventional Natural Gas and Other Petroleum Research and Development Program. The solicitation closed on February 2, 2006, and the Department has completed its review and made a selection of the consortium in May 2006, as required by the Energy Policy Act.

On April 27, 2006, Secretary Bodman transmitted to the House and Senate a legislative proposal to repeal the program. Oil and gas are mature industries and both have every incentive, particularly at today's prices, to enhance production and continue research and development of technologies on their own. There is no need for taxpayers to subsidize oil companies in these efforts.

Q9. In his 2006 State of the Union address, the President laid out an aggressive vision to decrease U.S. dependence on crude oil from the Middle East. The Ultradeep Program is designed to accomplish that by increasing our economically available oil and gas resources through research and development and thereby decrease our dependence on Middle Eastern sources of oil. By recommending that the Ultradeep Program be repealed, does DOE indirectly support increasing our foreign imports of oil and gas? Wouldn't a national R&D program designed to increase our economically available domestic resources provide an alternative to less expensive foreign oil to companies?

A9. Oil and gas are mature industries and both have every incentive, particularly at today's prices, to enhance production and continue research and development of technologies in areas such as ultra-deepwater exploration on their own. There is no need for taxpayers to subsidize oil companies in these efforts. The Administration's Research and Development Investment Criteria direct programs to avoid duplicating research in areas that are receiving funding from the private sector, especially for evolutionary advances and incremental improvements. Private control of intellectual property provides a market incentive for the private sector to invest in R&D and advance technology.

While not part of the Fossil Energy budget, The 2007 Budget's proposals to expand access to oil and gas resources, streamline permitting processes, and make the R&D investment tax credit permanent leverage private sector ingenuity and are better ways to increase domestic production of oil and gas than federally funded R&D.

The President's goal of reducing dependence on foreign sources of oil will also be addressed by the Advanced Energy Initiative proposed in the budget including advancements in cellulosic ethanol, battery technology, and hydrogen, among others. The Department and the Administration has set its budget priorities for research and development to focus on these and other areas within the Advanced Energy Initiative because they hold the greatest promise in helping us diversify and strengthen domestic energy resources.

Independent Producers

Q10. Because 68 percent of domestic oil and 82 percent of domestic natural gas comes from independent producers that cannot economically manage full scale exploration and production R&D programs independently, and because there is a national benefit to any such intellectual property being available broadly across this segment of the industry, doesn't Congressional policy to advance technologies that explore new frontiers for domestic oil and natural gas production through federally funded research and development make good sense?

A10. Oil and gas are mature industries and both have every incentive, particularly at today's prices, to enhance production and continue research and development of technologies on their own. There is no need for taxpayers to subsidize oil companies in these efforts. The Administration's Research and Development Investment Criteria direct programs to avoid duplicating research in areas that are receiving funding from the private sector, especially for evolutionary advances and incremental improvements.

Private control of intellectual property provides a market incentive for the private sector to invest in R&D and advance technology. Although independent operators may not fund technology development directly, the service industry that supplies them with equipment funds significant development of technologies with application to independent operators. The Department expects the service industry to continue to provide technological innovations for use by major and independent producers.

While not part of the Fossil Energy budget, the 2007 Budget's proposals to expand access to oil and gas resources, streamline permitting processes, and make the R&D investment tax credit permanent leverage private sector ingenuity and are better ways to increase domestic production of oil and gas than federally funded R&D. The President's goal of reducing dependence on foreign sources of oil will also be addressed by the Advanced Energy Initiative proposed in the budget including advancements in cellulosic ethanol, battery technology, and hydrogen, among others, some of which is included in the Fossil Energy budget.

Strategic Petroleum Reserve

Q11. Pursuant to the EPAct 2005 Section 301, you are directed to fill the Strategic Petroleum Reserve ("SPR") to its 1,000,000,000-barrel capacity as expeditiously as possible. To this end, pursuant to Section of EPAct 2005, you are directed to complete a proceeding to select sites necessary to enable capacity expansion of the SPR to meet that 1,000,000,000-barrel mandate. You do not appear to have allocated appropriation funding for the actual acquisition of the selected sites. When do you expect to request such funding to fulfill your ultimate obligation of expanding and filling the SPR and do you have an estimate of how much that request will be? Are there plans to acquire interim storage capacity while larger sites are being built?

A11. The Department initiated a proceeding in early Fall 2005 to identify potential sites for expansion of the Strategic Petroleum Reserve to 1 billion barrels. Public meetings were held through the Fall to solicit community input and comments were received. The proceeding to select sites is expected to be completed in late summer with the publication of an Environmental Impact Statement and recommendation for site selection.

EPACT 2005 requires that the Secretary of Energy "shall, as expeditiously as practicable, without incurring excessive cost or appreciably affecting the price of petroleum products to consumers, acquire petroleum in quantities sufficient to fill" the SPR to the one billion barrel authorized capacity. The FY 2007 Request is sufficient to comply with responsibilities established under EPACT 2005.

Global Nuclear Energy Partnership (GNEP)

Q12. The DOE budget cuts every nuclear energy research and development program except for Advanced Fuel Cycle Initiative, which is the funding source for GNEP. This suggests that previous Department goals, such as developing new generations of reactor technology and harnessing nuclear energy for the production of hydrogen, are no longer priorities. Considering that these goals have been major Department initiatives in the past, what assurance can you provide that GNEP not suffer a similar fate, thereby wasting taxpayer's funds on a program that will fall out of favor in a few short years?

A12. Developing new generations of reactor technology and harnessing nuclear energy for the production of hydrogen are key priorities for the Department. Both of these activities are part of the President's Advanced Energy Initiative. With the funding requested in Fiscal Year 2007 for the Nuclear Hydrogen Initiative and the Next Generation Nuclear Plant concept, the Department will continue the research and development needed to bring these technologies to the point of maturity necessary to inform a decision in 2011 on whether to proceed with construction of a reactor co-generation demonstration facility. In addition, consistent with expectations expressed in the Energy Policy Act of 2005, we are also currently exploring the feasibility of using existing nuclear power plants for hydrogen production. We believe all of this research is important for the Nation. Instead of reducing other initiatives, the Global Nuclear Energy Partnership initiative will support them by providing a sustainable path for the U.S. and global development of nuclear energy.

Q13. DOE is not requesting any additional legislative authority to pursue the GNEP initiative at this time. Under what authority does the Department believe it may conduct each aspect of the initiative?

A13. DOE currently believes the existing legislative authority under the Atomic Energy Act of 1954 as amended, is sufficient for carrying out the activities currently proposed as part of the GNEP initiative.

Q14. What are the program's specific objectives?

A14. The Global Nuclear Energy Partnership (GNEP) initiative seeks to develop worldwide consensus on enabling expanded use of economical, carbon-free nuclear energy to meet growing electricity demand. This initiative proposes to use a nuclear fuel cycle that enhances energy security, while promoting non-proliferation. It would achieve its goal by having nations with secure, advanced nuclear capabilities provide fuel services – fresh fuel and recovery of used fuel – to other nations who agree to employ nuclear energy for power generation purposes only. The closed fuel cycle model envisioned by this partnership requires development and deployment of technologies that enable recycling and consumption of long-lived radioactive waste. Under the GNEP initiative, the Department would seek to demonstrate the critical technologies needed to change the way used nuclear fuel is managed – to build recycling technologies that enhance energy security in a safe environmentally responsible manner, while simultaneously promoting non-proliferation.

Q15. Please describe any work that the Administration has begun on the GNEP program.

A15. Under GNEP, the Department has proposed $250 million in FY 2007 to accelerate the demonstration of integrated recycling technologies that are currently under development as part of the Department's ongoing Advanced Fuel Cycle Initiative (AFCI). Under AFCI, the Department's current efforts are aimed at conducting the applied research, engineering and environmental studies that would be needed to inform a decision in 2008 on whether to proceed with detailed design and construction of the engineering scale demonstration facilities. The Department recently approved the mission need for these demonstration facilities, the first critical decision in the Department's project management procedures. In March 2006, the Department issued an advance notice of intent, announcing plans to prepare an environmental impact statement (EIS) for the GNEP technology demonstration program. The EIS effort is anticipated to be completed over the next two years. Also last month, the Department announced that it is seeking expressions of interest from the public and private sectors for hosting advanced recycling demonstration facilities and related activities.

Q16. How many people does the Department have working on the GNEP program now? How many people does the Department anticipate it will have working on the GNEP program at its peak? When will that peak occur?

A16. Currently, 15- 25 Federal staff provide technical and management support to the Advanced Fuel Cycle Initiative (AFCI). About 100 engineers, scientists and technicians from DOE national laboratories are currently supporting AFCI. Under GNEP, the Department would propose to accelerate the AFCI program to demonstrate the integrated recycling technologies. While the specific levels of staffing for the future cannot be provided until the conceptual designs are completed, it is anticipated that staffing would significantly increase as the technology demonstration program transitions to detailed design and to construction.

Q17. Which countries are potential fuel cycle partners? Would technology development be coordinated within the GNEP or will each partner pursue its own programs?

A17. The U.S. has completed initial consultations with fuel cycle countries and the International Atomic Energy Agency on the key objectives of GNEP. From a technical perspective, to date, France, Japan, Russia, and the United Kingdom have expressed strong interest in cooperative, coordinated research and development. It is anticipated that the technology development and demonstration would be a coordinated effort among the partner nations. In the course of meetings held in February and March 2006, these countries agreed in principle to substantial collaboration with the U.S. in the preparation for, and execution of, the GNEP technology demonstrations. The visions for the GNEP technical strategies are shared by all these countries.

Q18. What projects within the GNEP will be regulated by the Nuclear Regulatory Commission?

A18. DOE would regulate the GNEP technology demonstration program under its own authority granted by the Atomic Energy Act. DOE would engage the Nuclear Regulatory Commission throughout the technology demonstration phase to ensure that the technologies developed and demonstrated are licensable by NRC.

Q19. Do you believe, and has the Department done any studies that show that the infrastructure development necessary for GNEP will produce cost competitive power for consumers?

A19. A major objective of the demonstration phase of the GNEP initiative is to understand and determine the costs associated with a more proliferation resistant closed fuel cycle while demonstrating those technologies necessary to support the global expansion of emissions-free nuclear energy. Engineering scale demonstrations will enable the Department to improve plant design and reduce costs. It is too early to determine the cost competitiveness of power produced from the proposed integrated GNEP facilities.

GNEP – Costs

Q20. What is the projected cost of the GNEP program over its lifetime?

A20. The Department's preliminary, order-of-magnitude estimate of costs for the GNEP initiative range from $20 billion to $40 billion, which includes the costs of the technology demonstration projects, including the Nuclear Power 2010 and Yucca Mountain programs. The preliminary, order-of-magnitude costs associated with the demonstration of technologies would be substantially less, and have previously been estimated to range from $3 billion to $6 billion over the next ten years to bring those technologies to the point of initial operations. These estimates are based on pre-conceptual studies and information available from laboratory-scale testing. We will be able to provide costs with a higher degree of confidence as the conceptual design studies are completed over the next two years.

Q21. What are the GNEP funding requirements for FY 2008 and succeeding years?

A21. The Department is currently developing and anticipates completing the GNEP Program Plan by the end of May 2006 which will guide the GNEP technology demonstration program work scope over the next five years and will identify the funding requirements for its implementation.

Q22. Will the Nuclear Waste Fund be used to pay for some of the program costs?

A22. The Department has no plans to use the Nuclear Waste Fund to fund any for GNEP technology activities. The Nuclear Waste Policy Act of 1982 authorizes the Secretary to "make expenditures from the Waste Fund … only for purposes

of radioactive waste disposal activities … including: … any costs that may be incurred by the Secretary in connection with the transportation, treating, or packaging of spent nuclear fuel or high-level radioactive waste to be disposed of in a repository, to be stored in a monitored, retrievable storage site, or to be used in a test and evaluation facility." (42 U.S.C. 10222(d)). To the extent that GNEP activities involve the "treating, or packaging of spent nuclear fuel," for disposal at Yucca Mountain, such activities would come within the scope of radioactive waste disposal activities within the meaning of the Nuclear Waste Policy Act of 1982, and thus the Nuclear Waste Fund could potentially be used for such activities. Any use of the Nuclear Waste Fund for GNEP activities would require the approval of Congress through the appropriation process.

Q23. Considering that both GNEP and the Yucca Mountain programs will require dramatic funding increases in roughly similar timeframes, how will DOE accommodate those competing requirements within its budget? What offsetting reductions in DOE activities is the Administration considering?

A23. DOE intends to request sufficient funding to support both GNEP and the Yucca Mountain programs. The Administration has submitted legislation, "Nuclear Fuel Management and Disposal Act," which would provide stable and predictable funding for Yucca Mountain Program by making annual receipts from the Nuclear Waste Fund available to the program. No decisions have been made at this stage concerning whether there would be offsetting reductions in other programs.

Q24. Deputy Secretary Clay Sell's testimony before Senate Appropriations states, "We will be looking for a sizable portion of GNEP costs to be shared by our partners and industry starting in 2008." What aspects does the Administration envision the industry funding and how much would the industry contribute?

A24. Our industry and international partners would focus their contributions on the demonstration of the technologies that support the more proliferation resistant closed fuel cycle. Industry and international partners have significant experience and capabilities that would support various aspects of the GNEP initiative. While specific funding levels have not been set among possible participants, it is anticipated that cooperating on the development of these advanced recycle technologies would enable the U.S. to leverage its investment with fuel cycle partners.

Q25. Will fuel cycle partners provide funding support for the program?

A25. Industry and international partners have significant experience and capabilities that would support various aspects of the GNEP initiative. While specific funding levels have not been set among possible participants, it is anticipated that cooperating on the development of these advanced recycle technologies would enable the U.S. to leverage its investment with fuel cycle partners, increasing the U.S. investment several fold.

GNEP – Fuel Leasing

Q26. Which countries seeking to develop nuclear energy have expressed interest in the GNEP?

A26. The preliminary responses from major fuel supply nations such as Japan, France, the United Kingdom, Russia and China have been very encouraging. We recognize that there are responsible states that have partial fuel cycles whose interests can be accommodated in the GNEP framework. Government delegations from Canada and South Korea were briefed at their request. In addition, many science counselors from embassies that expressed interest in learning more about GNEP from Europe, Asia, Latin America and Africa were briefed in Washington. The IAEA has been supportive of GNEP goals. In March, the International Atomic Energy Agency Board of Governors was briefed, including representatives from nearly 40 nations. We are still in the outreach stage, attempting to provide more information in response to inquiries, for example, concerning Indonesia, Vietnam and Turkey.

GNEP

Q27. Countries wishing to purchase nuclear fuel services could do so through existing markets. How would GNEP fuel-leasing concept be different? What incentives are there for those countries to utilize GNEP fuel leasing? Will GNEP provide subsidies or incentives that would make fuel cheaper than the competitive market? If so, who would pay the costs of those subsidies or incentives?

A27. The commercial uranium market provides some margin of fuel supply security. Under GNEP, we envision extending the security through fuel supply assurances and cradle-to-grave fuel services. This provides two important incentives for nuclear power users: (1) access to fuel in the event of a supply disruption, and (2) elimination of a requirement to store spent reactor fuel for an extended period of time. No subsidies are envisioned under this arrangement. We anticipate all fuel transactions would be at prevailing market prices and conditions, consistent with our goal of not adversely impacting the commercial nuclear fuel market.

Q28. What potential role might the International Atomic Energy Agency play in fuel leasing arrangements?

A28. The International Atomic Energy Agency is expected to play a significant role in any fuel supply arrangements. Under the Reliable Fuel Supply Initiative we envision, the IAEA will serve as the central point of contact for states facing (Note: don't want to let states get near actually experiencing a disruption – time between contracting of uranium for fuel and fabrication can be fairly lengthy) a short-term, fuel supply disruption. In such circumstances, the IAEA would act as a broker, helping states identify alternative sources of nuclear fuel from supplies around the world. This role is consistent with the IAEA's charter and mission.

Q29. I understand that DOE has allocated 17 metric tons of High Enriched Uranium for fuel leasing under the GNEP concept. Considering that the value of that material at current market prices is near $800 million, how does the Department plan to ensure that American taxpayers benefit? Where is this reflected in the DOE's budget?

A29. As part of the Reliable Fuel Supply initiative announced by Secretary Bodman last year, 17 metric tons of highly-enriched uranium (HEU) is to be downblended to low-enriched uranium (LEU) and the LEU set aside as an emergency stockpile for states that refrain from pursuing national enrichment and reprocessing programs and that experience a short-term fuel supply disruption. The Reliable Fuel Supply is separate from the GNEP initiative. Limiting the spread of enrichment and reprocessing programs is one of the nation's highest priorities, and its achievement will provide a crucial benefit to U.S. taxpayers. Under the fuel supply arrangement we envision, the Department will sell LEU from the reserve at current market prices. Revenues from any sales of this material will be returned to the U.S. Treasury. At today's prices, the gross market value of the material is estimated to be approximately $640 million. After taking into account processing and downblending costs, the net market value is estimated to be just over $500 million. These potential future revenues to the Treasury cannot be reflected in the DOE budget, since the timing and extent of any such future sales are unknown.

GNEP – Fast reactors

Q30. Who is working on development of fast reactors and what is the status in the U.S.? In the world?

A30. While the U.S. has considerable experience with fast reactor technology and is exploring a sodium fast reactor concept under the Generation IV nuclear energy systems initiative, there are no fast reactors currently operating in the U.S. Worldwide, Russia, Japan, France, China, and India are also working on fast reactors and fast reactor technology. Russia, France, Japan, and India have operating fast reactors. China and India are each currently building a fast reactor. All of these countries envision a long-term expansion of nuclear energy with significant contributions from fast reactor technologies to ensure sustainability.

Recently, the U.S., France and Japan signed a systems arrangement to cooperate on the development of sodium fast reactor technology. It is anticipated that this arrangement will provide the framework under which these countries could cooperate on developing advanced burner reactors under the GNEP program.

Q31. What is your best estimate of how much it will cost to take to develop fast reactors? What is your best estimate of how long that development will take? When would fast reactors be deployed?

A31. DOE has estimated that it will take between $2 billion and $5 billion to develop an advanced fast test reactor in which to demonstrate the burning of transuranics and support the qualification of larger advanced burner reactors.

The Department has set a goal of developing the fast spectrum test reactor between 2014 and 2019. The Department would need several years of experience operating the technology demonstration facilities in parallel with the design of commercial-scale facilities. It is anticipated that commercial-scale operations could begin over the next twenty years.

Q32. What is your best estimate for the cost of a fast reactor? Do you expect that fast reactors will be commercially deployed? If so, what is the basis for assuming that such plants will be economically feasible?

A32. The Department does not have a specific cost estimate for the design of fast reactors. These costs will be estimated over the next two years as the Department conducts conceptual design on the advanced burner reactor and works to develop a baseline schedule and cost for demonstration of the technology.

Under the Advanced Fuel Cycle Initiative, the Department would propose to invest $25 million on the advanced burner test reactor technology in FY 2007, to complete much of the conceptual design and complete a series of extensive studies to establish cost and schedule baselines and determine the scope, safety, and health risks associated with fuel design, siting and acquisition options. In addition, under the Generation IV program, the Department would propose to allocate about $3 million in FY 2007 to explore research and development associated with fast reactor technology.

We believe that innovative design features and modern project management, fabrication, and installation technologies offer the promise of significant cost reductions for fast reactor technology as well as other reactor systems. However, with any new reactor technology, the cost of first-of-a-kind demonstration facility will be higher than the eventual commercial system. One of the fundamental objectives of demonstrating the advanced burner reactor technology is to determine the commercial feasibility of the technology, and to incorporate and demonstrate technical innovations that would improve reactor economics. The Department's plan calls for a demonstration of the technology in the 2014 - 2019 timeframe. The Department would need several years of experience operating the GNEP technology demonstration facilities in parallel with the design of commercial-scale facilities. It is anticipated that commercial-scale operations could begin over the next twenty years.

Q33. How many fast reactors are envisioned under the GNEP program?

A33. Under GNEP, the Department's preliminary estimate is that approximately one advanced burner reactor would be required for every four to ten light-water commercial power reactors. The exact number will not be known until the reactor design is substantially completed.

Q34. Given this number of fast reactors, how long will it take to eliminate all of the material expected to be generated by the existing fleet of nuclear plants in the U.S.?

A34. A determination of the time required to recycle the current and projected inventories of spent nuclear fuel from the existing fleet is dependent on the ultimate size of the separations facility or facilities required to produce the feedstock for fueling the fast burner reactors. The Department is not currently in a position to make this determination.

Q35. Has the NRC ever licensed a fast reactor design? What is your best estimate of when it could do so?

A35. NRC has previous experience in reviewing fast reactor technology, including both the Fast Flux Test Facility (FFTF) and the Clinch River Breeder Reactor. In the case of FFTF, the NRC completed a safety evaluation and issued the FFTF Safety Evaluation Report. The Clinch River Breeder Reactor licensing effort was almost complete at the time the project was terminated. It is DOE's hope that the NRC would be ready to license an advance burner reactor by 2025.

GNEP – Reprocessing

Q36. Would existing reprocessing facilities be utilized until UREX+ technology is deployed?

A36. The Department has made no decisions concerning the use of existing facilities for demonstrating the recycling technologies and there currently are no plans for the U.S. to use the existing recycling facilities in the interim while the UREX+ technology is deployed.

Q37. Can the reprocessed material be used in the existing fleet of nuclear reactors or does it require a fast reactor?

A37. The uranium separated from the spent fuel could be used in fast spectrum reactors or re-enriched and used in light water reactors. The transuranic material would not be usable as fuel for light water reactors but could be consumed as fuel in a fast spectrum reactor. For this reason, the Department is considering a sodium-cooled fast reactor for the GNEP program. Use of recycled plutonium and other transuranic elements in some existing commercial reactors is technically feasible but does not produce the environmental benefits which can be achieved through the use of fast reactors to consume transuranics.

Q38. According to DOE's Global Nuclear Energy Partnership proposal, the United States would provide nuclear fuel services to other countries including the return of spent fuel for reprocessing. Where will the ultimate waste product be disposed?

A38. We do not envision accepting spent fuel pursuant to GNEP until there is sufficient advanced recycling capability available in the U.S. At that time, we would have to consider the conditions under which the U.S. would reprocess

another country's spent fuel. It is anticipated that other countries resultant bi-product waste materials would be returned to the country of origin.

Q39. I understand that the GNEP program anticipates use of the UREX + process. What is the status of developing that process?

A39. Over the last five years, the Department has pursued development of more proliferation resistant separations technology. The Uranium Extraction Plus (UREX+) technology has been successfully demonstrated at the "laboratory scale," demonstrating that uranium can be separated at a very high level of purity from light water reactor spent fuel. While we have had success in demonstrating the technology at the "laboratory scale," a central challenge is demonstrating the ability to separate spent fuel at an "engineering scale," at those same levels of purity. It is also necessary to demonstrate waste forms for the products of the UREX+ technologies. The GNEP program would enable the Department to accelerate the demonstration of the UREX+ technology at a sufficient scale to demonstrate the feasibility and performance of a full scale facility.

Q40. Who is working on development of the UREX+ process in the U.S.? In the world?

A40. The UREX+ process has been developed by the DOE and its national laboratories up to this point. This technology was chosen because of the purity with which we have been able to separate constitutents of spent fuel at the "laboratory scale" level and because many of its process steps are similar to well demonstrated processes, further increasing the probability of success at the "engineering scale." Other countries such as France, Japan and Russia are working on similar processes.

Q41. What is your best estimate of how much it will cost to take the UREX+ process from where it is today to deployment? What is your best estimate of how long that development will take?

A41. DOE has previously estimated that it would require between $700 million and $1.5 billion to bring the UREX+ demonstration facility to the stage of initial operation. The Department has set a goal of facility start-up between 2011 and 2015. The Department would need several years of experience operating the facility in parallel with the design of a commercial-scale facility. It is anticipated that commercial-scale operations could begin over the next twenty years.

Q42. What is your best estimate for the cost of a commercial UREX+ facility? Do you expect that reprocessing plants will be commercial, profit-making enterprises? If so, what is the basis for that assumption? Are any of the existing foreign reprocessing facilities profitable?

A42. An engineering scale demonstration of the spent fuel separations process is expected to provide a significant amount of information that could be used to

estimate the cost of a commercial UREX+ facility and the potential for establishing a profitable enterprise. The profitability of foreign facilities is difficult to assess but we believe that France and the United Kingdom have demonstrated profitable operations, using the potentially more expensive PUREX process. We are making the economics of spent fuel processing one of the major focal points of our development program.

Q43. How many UREX+ facilities are envisioned under the GNEP program?

A43. During the technology demonstration phase of GNEP, a single spent fuel separations facility is required to demonstrate the technical feasibility for scaling up the technology to a commercial scale. The number of commercial spent fuel separations facilities ultimately needed would be contingent upon several factors including the rate of spent fuel generation, the existing inventory of spent fuel at the time a decision is made to commercially recycle spent fuel, and the size of the separations facility.

Q44. Given this number of UREX+ facilities, how long will it take to reprocess all of the spent fuel from the existing U.S. fleet of nuclear plants?

A44. A determination of the time required to recycle the current and projected inventories of spent nuclear fuel from the existing fleet is dependent on the ultimate size of the commercial facility or facilities deployed. The Department is not currently in a position to make this determination.

NGNP

Q45. In accordance with the President's decisions to strive for a hydrogen economy and to further nuclear power, the EPAct 2005 authorized an aggressive project to demonstrate the use of nuclear energy to generate hydrogen. This project was authorized for $1.25 billion for fiscal year 2006-2015. Considering the important role of this project in demonstrating emission-free energy production, why is the budget request merely $23 million for FY '07?

A45. The funding requested for FY 2007 is the level needed to continue the progress necessary to inform a decision in 2011 on whether to proceed with the construction of the Next Generation Nuclear Plant (NGNP) as required by EPACT. With these funds, the Department will continue the graphite particle fuels development effort, which is on critical path for determining the feasibility of the technology. In FY 2007, we will also continue irradiation testing of the fuel and begin preparation for post-irradiation examination of the fuel.

University Assistance

Q46. FY 2006 appropriations included $27 million for a program called University Reactor Infrastructure and Education Assistance. This program is intended to address the increasing shortage of graduates in nuclear-related fields by improving reactor facilities and providing fellowships and scholarships to

attract students. This year, the DOE budget declared victory and eliminated the program because enrollments have increased.

However, the number of graduates is still flat and less than 500 per year. Considering that the Nuclear Regulatory Commission alone will hire 350 personnel next year for the next several years, what action is DOE taking to ensure that our universities will be able to produce the graduates needed to power the rebirth of nuclear energy, including the Global Nuclear Energy Partnership?

A46. The Department will continue its efforts to attract and prepare nuclear engineering students for careers in advanced fuel cycle technologies and related disciplines by continuing the Advanced Fuel Cycle Fellowship Program. Through the Nuclear Energy Research Initiative, the Department will continue to sponsor university-conducted research and development associated with the Advanced Fuel Cycle Initiative, Generation IV program, and the Nuclear Hydrogen Initiative. On an annual basis, the Department solicits proposals and awards grants for university-led research projects that support the goals and objectives of the AFCI, Generation IV and Nuclear Hydrogen programs. University participation in our research is important to strengthening nuclear engineering education infrastructure in the U.S. and to enabling the Department to accomplish its goals and objectives with respect to developing advanced nuclear reactor and fuel cycle technologies.

In addition, the contractor organizations that operate DOE's national laboratories are also strong supporters of nuclear engineering education in the U.S. Several of the national laboratories specifically support nuclear engineering education on advanced fuel cycles through joint appointments, sabbaticals and internships that enable students to obtain practical experience with fuel cycle technologies in a national laboratory setting. For example, last year the University of Chicago, which manages and operates Argonne National Laboratory established and funded an initiative with the University of Wisconsin to enable nuclear engineering students to obtain practical experience with nuclear fuel cycle technology through short-term internships at the laboratory. Batelle Energy Alliance, which manages and operates the Idaho National Laboratory, has similar efforts underway to involve the three Idaho state universities (University of Idaho, Idaho State University, and Boise State University) and a consortium of five other nuclear engineering programs across the country in the work of the laboratory and to provide educational opportunities for students. Many of the Department's national laboratories sponsor summer internships for engineering students.

Q47. EPAct 2005 Section 1405 gives the Secretary certain obligations for the National Priority Project Designation. We understand that DOE has not met its deadline for promulgating guidance for implementation of the National Priority Project award, which would recognize large renewable energy projects. What is the status of implementation of this the National Priority Project provisions of EPAct 2005? Does the Department have an estimate for when it will be promulgating guidelines to implement this provision of the EPAct 2005?

A47. EPACT section 1405 places authority with the Secretary of Energy to establish a Presidential Awards program to advance the field of renewable energy

technology and contribute to North American energy independence through the designation of National Priority Projects that promote the recognition of large wind, biomass, solar, photovoltaic, fuel cell, and energy-efficient building projects. The Department's General Counsel is currently reviewing the relevant provisions, including Section (a) Designation of National Priority Projects; Section (c) Selection Criteria; and Section (e) Certification. Once the review is complete, the Department will establish a path forward.

QUESTION FROM CONGRESSMAN STEARNS

New Nuclear Plants

Q1. Last year's energy bill established numerous incentives for the construction of new nuclear plants. The Treasury Department is currently developing regulations on how a production tax credit will work. Is the Department of Energy working the Treasury to develop these regulations, and are both agencies consulting with industry on what is needed in the credit to achieve Congress's intent: as many new nuclear plants as possible?

A1. The Department of Energy (DOE) is supporting the Treasury Department in its development of the regulations to allocate the production tax credit. The Treasury Department has published an Advance Notice in the Internal Revenue Bulletin setting forth interim guidance pending issuance of the regulations. Since the Energy Policy Act of 2005 limits the total tax credit to a total capacity of 6,000 megawatts nationally, the interim guidance provides a process for allocating the tax credit among those new plants that begin construction by 2014. In addition, the Notice states that applications for the tax credit must be filed with the DOE. The DOE must then certify that the applicant's technology is an advanced nuclear facility, in order to qualify for the production tax credit.

QUESTIONS FROM CONGRESSMAN GILLMOR

Q1. I understand that DOE has funded an environmental clean up project at the former Lockbourne Air Force Base in Columbus, Ohio. Is this the case? What oversight measures do the Department's Office of Environmental Management and Office of Environment, Health, and Safety undertake on contracts issued by the Department pertaining to activities in their area?

A1. No, in fact, the Department of Energy (DOE) has not funded an environmental cleanup project at the former Lockbourne Air Force Base in Columbus, Ohio. However, there is a U.S. Army Corps of Engineers project for clean up at the former air base.

Regarding the DOE's oversight policies, DOE Policy 226.1, Department of Energy Oversight Policy, establishes a DOE-wide oversight process to protect the public, workers, environment, and national security assets, to ensure compliance with all Federal, State and local statutes and regulations and DOE Headquarters and site requirements. It covers such operational aspects as environment, safety, and health; safeguards and security; cyber security;

emergency management; and business operations (project management, contract administration, financial management). As defined in the Policy, DOE oversight encompasses activities performed by DOE organizations to determine the effectiveness of Federal and contractor programs and management systems, including assurance and oversight systems. Oversight programs include operational awareness activities, on-site reviews, assessments, self-assessments, performance evaluations, and other activities that involve evaluation of contractor organizations and Federal organizations that operate Federal government-owned sites.

DOE's assurance systems and oversight programs include four essential elements:

- a comprehensive and rigorous assurance system at all sites implemented by the contractor and Federal organizations that manage or operate on a DOE site;
- DOE field element line management oversight processes, such as inspections, reviews, surveillances, surveys, operational awareness, and walkthroughs, that evaluate programs and management systems and the validity of the site assurance system;
- DOE Headquarters line management oversight processes that are focused on the DOE field elements and also look at contractor activities to evaluate the implementation and effectiveness of field element line management oversight; and
- independent oversight processes that are performed by DOE organizations that do not have line management responsibility for the management of the activity and thus provide an independent perspective for senior management on the effectiveness of programs and activities at all organizational levels (Headquarters, field, and contractor).

Q2. If DOE terminates a contract because it does not consider it cost effective, is there monitoring of future contracts to insure that either entities related to or entities deploying the same technology application as one that has been rejected by the Department are prevented from filing for or being awarded a DOE contract? Does DOE coordinate with the U.S. Army Corps of Engineers or the U.S. Environmental Protection Agency to ensure there is not a circumvention of Federal contracting procedures for environmental remediation projects?

A2. Contract termination does not necessarily preclude an entity from receiving a future contract award. The Department of Energy (DOE) would consider the circumstances that led to the termination. For example, a contract may be terminated for reasons that are not the fault of the contractor, such as changes in Federal or state environmental regulations. On the other hand, if a contract was terminated because of an entity's failure to meet its contractual obligations (for example, an inability to control costs), the termination could adversely impact the entity's chances for future contract awards.

Contractual Statements of Work are routinely reviewed to determine whether the scope of work duplicates an existing contract. Prior to awarding a contract for a technology that may have previously been unsuccessful, DOE would review the current proposed approach and assess its probability of success. If

the new approach appears to resolve the technical issues that led to a prior failure, the DOE may go forward with a new award.

DOE considers contractor past performance as a factor in all of its procurement decisions. Information on a contractor's past performance, including contract termination, is recorded in the Past Performance Information Retrieval System, a web-enabled, Federal government-wide computer database that DOE uses to check a contractor's performance history. An entity that did not perform successfully on a prior contract would be ineligible for consideration of a future award if the entity is suspended, debarred, or proposed for debarment. (Individuals and companies are typically debarred or suspended for reasons of gross negligence or misconduct, often involving ethical violations, or failure to follow certain statutory requirements.)

Unless the U.S. Environmental Protection Agency or the U. S. Army Corps of Engineers is provided as a reference for past performance information on a competitively awarded contract, the DOE does not routinely consult with them regarding procurement procedures.

Q3. Does DOE have a procedure in place by which DOE reviews contracts issued as a Research and Development (R&D) project to ensure that R&D efforts are not being used to circumvent a process that would ordinarily result in a contract being awarded through an open for fair and open bidding process?

A3. Contract and financial assistance awards, including those for research and development (R&D) projects, are made in compliance with all applicable statutory and regulatory requirements, including the Competition in Contracting Act of 1984 and the Department of Energy Financial Assistance Regulation. This means that a competitive process is utilized to make such awards, unless an exception to competition is documented, justified and approved, consistent with regulatory requirements.

Consistent with these laws and regulations, a research and development project may also be assigned to a DOE management and operating contractor for performance, provided the project falls within the contract's scope of work. While in that case there is no requirement for competition, the Department often solicits and evaluates proposals for the research and development work from more than one laboratory or site before deciding which DOE contractor will be assigned the R&D project.

Q4. What is the status of DOE activities at the Miamisburg Mound site and in particular the OU-1 property? How is DOE using Federal funds at this site? Is any Federal money being used to support public outreach efforts at this site and, if so, how much and what activities and dates have these outreach efforts occurred?

A4. The Department of Energy (DOE) is using Federal funds to achieve cleanup of the Mound Site in 2006. The CH2MHill contract currently reflects a completion target in September 2006; work remaining includes: remediation of newly identified low-level waste soil volumes, decontamination in T building, and backfilling and re-contouring previously cleaned areas.

The Conference Report (109-275) accompanying the Energy and Water Development Appropriations Act, for Fiscal Year 2006 (P.L. 109-103), directed the DOE to work with the Miamisburg Mound Community Improvement Corporation (MMCIC) to develop a mutually agreed upon remedy for the Operable Unit (OU)-1 landfill and appropriated $30 million to conduct the additional remedial work at OU-1. This congressional direction to remediate the OU-1 landfill represents a significant increase in work. Therefore, current plans are to manage the OU-1 work as a distinct project. Every effort will be made to achieve the remediation in parallel with CH2MHill's efforts to complete the balance of site cleanup. To cost-effectively implement this work, a small share of the work scope, and corresponding funds currently under contract to CH2MHill (the rail spur and waste staging area) will be transferred into the new contract for the OU-1 work. These changes will not adversely impact CH2MHill's ability to complete the previously planned Mound cleanup project on schedule.

DOE developed a Project Team (Team) consisting of representatives from the MMCIC, the City of Miamisburg, the U. S. Environmental Protection Agency (EPA), and the Ohio Environmental Protection Agency (OEPA). The Team has been meeting weekly over the past few months to: 1) perform additional assessments of available information to better define the nature and extent of contaminants within the OU-1 area; 2) establish removal priorities for the waste types believed present; 3) evaluate various excavation strategies to target priority wastes; and 4) agree on the regulatory approach to ensure adequate EPA and OEPA oversight during remedy implementation. DOE and MMCIC have reached general agreement on a remedial approach for OU-1. DOE is preparing to hold a public meeting to discuss the proposed cleanup plan and initiate a formal 30-day public comment period (during the month of May).

In addition to the OU-1 activities, the DOE participates in monthly meetings of the Mound Reuse Committee (MRC), which consists of a variety of community leaders/representatives and is chaired by the city manager, to answer questions and provide updates on the status of cleanup activities at the site. As a closure site with the majority of cleanup work winding down, the monthly meetings with the MRC constitute the principal forum for public outreach at this time and requires minimal (approximately $1000.00/month) DOE and contractor resources.

Q5. What is the status of the project as well as DOE's efforts with regard to the Moab Uranium Mill Tailings Site (Moab site), Grand County, Utah?

A5. On August 25, 2005, the Department of Energy (DOE) approved the mission need (Critical Decision (CD) 0) for the Uranium Mill Tailings Remedial Action Project at Moab, Utah. DOE has since developed an Acquisition Strategy, which details the project schedule, major work activities, estimated annual expenditures for the life-cycle of the project, and the various acquisition alternatives. DOE expects to approve the preliminary baseline/proposed work plan (CD-1) in May. Once approved, we will conduct a competitive procurement to procure contractor(s) who will be responsible for developing a project baseline and cost estimate that can be validated and approved by the DOE, as part of the CD-2 decision process.

In the meantime, we are continuing with interim remedial soils and groundwater actions, which include dust control measures, groundwater cleanup, sampling and monitoring at the site, soil characterization, and environmental air monitoring. In addition, contaminated soils from the former uranium mill site area have been remediated, resulting in a cumulative reduction of the contaminated area footprint by a total of 40 acres. Additional soil remediation adjacent to the site is planned later this year. Field characterization efforts at the Crescent Junction disposal site have also been completed to support preparation of the Remedial Action Plan for submittal to the U.S. Nuclear Regulatory Commission.

Q6. What is the status of the project and site as well as DOE's efforts with regard to the Santa Susana Field Laboratory? Does DOE have any future plans for work at SSFL?

A6. The Department of Energy (DOE) has not conducted any research at the Santa Susana Field Laboratory (SSFL), owned by Boeing Corporation, since 1996, and has no plans for any future research or other type of activities. The DOE's involvement at the SSFL is confined to the former Energy Technology Engineering Center (ETEC). ETEC is comprised of a few buildings on land owned by the Boeing Corporation within the 2,900 acre SSFL. DOE remediation and cleanup activities at ETEC are divided into two areas: the decontamination and demolition (D&D) of contaminated buildings and associated systems, and the cleanup of contaminated soils and ground water pursuant to the Resource Conservation and Recovery Act (RCRA) corrective action process. The D&D effort is nearly complete, with two radiological facilities and two sodium facilities remaining to be completed. The RCRA corrective action process for soils and ground water is in the late characterization phase. The remediation activities, under the regulatory oversight of the California Department of Substances Control, are ongoing, and DOE is using its best efforts to complete the ETEC cleanup in 2009.

QUESTIONS FROM CONGRESSMAN BURGESS

Oil recovery

Q1. One of the best ways to decrease our dependence on foreign sources of oil is to make the most of our domestic oil resources we do have. Enhanced oil recovery through CO2 injection is one way to get more oil out of the same well. According to recent DOE oil and gas research, CO2 injection for enhanced oil recovery could add 89 billion new barrels to the recoverable oil resources of the United States. That's nearly a 400% increase from current proved reserves using current technology. If multiple advances are made in technology and the availability of carbon dioxide, we could eventually add as much as 430 billion new barrels to the technically recoverable reserves. That would put us ahead of Saudi Arabia's reserve count. Yet, in your budget proposal, you are terminating the petroleum-Oil and Natural Gas technologies programs that would have helped us develop the technologies necessary to realize these reserves. Why doesn't the Administration think that this research is necessary any longer? Isn't it true that the increase will occur in fields and wells that are

owned by independent operators that have not necessarily made the phenomenal profits we witnessed last year?

A1. Oil and gas are mature industries and both have every incentive, particularly at today's prices, to enhance production and continue research and development of technologies on their own. In particular, enhanced oil recovery is a mature, commercially deployed technology receiving funding from the private sector for evolutionary advances and incremental improvements. There is no need for taxpayers to subsidize oil companies in these efforts. The Administration's Research and Development Investment Criteria direct programs to avoid duplicating research in areas that are receiving funding from the private sector, especially for evolutionary advances and incremental improvements.

Private control of intellectual property provides a market incentive for the private sector to invest in R&D and advance technology. Although independent operators may not fund technology development directly, the service industry that supplies them with equipment funds significant development of technologies with application to independent operators. The Department expects the service industry to continue to provide technological innovations for use by major and independent producers.

The 2007 Budget does provide funding for achieving long-term carbon storage through a variety of methods, including in conjunction with enhanced oil recovery, as a means to reduce emissions of greenhouse gases. This R&D is consistent with the R&D Investment Criteria because there is currently not a market incentive for ensuring long-term storage of carbon.

Oil and gas companies have generally done well financially as a result of high worldwide oil and gas prices. For example, the International Petroleum Finance index of oil company shares rose a collective 15.7% in 2005, following an increase of 21.5% in 2004. Share gains in 2005 for independent oil producers were generally higher than those for the majors.

While not part of the Fossil Energy budget, The 2007 Budget's proposals to expand access to oil and gas resources, streamline permitting processes, and make the R&D investment tax credit permanent will leverage private sector ingenuity and are better ways to increase domestic production of oil and gas than federally funded R&D. The President's goal of reducing dependence on foreign sources of oil will also be addressed by the Advanced Energy Initiative proposed in the budget including advancements in cellulosic ethanol, battery technology, and hydrogen, among others, some of which is included in the Fossil Energy budget.

Price gouging

Q2. In the GAS Act, the House included provisions that would outlaw price gouging on gasoline. My understanding is that the Department of Energy collected information about reported price gouging following Hurricanes Katrina and Rita. Can you please share this information with the Committee?

A2. The Department collects information from consumers via the Gas Price Watch (GPW) Hotline operation. The methods used to gather the information include an Internet web form (http://gaswatch.energy.gov/) and phone bank operations (1-800-244-3301). Consumer information is stored in a data base from which a report by State is generated and distributed on a weekly basis. Electronic copies of the report are distributed to the Federal Trade Commission, US Department of Justice and also to each State Attorneys General Office for investigation and prosecution where appropriate. Information collected by the GPW operation for the period of Hurricanes Katrina and Rita (August thru December 2005) was voluminous and included 32,123 responses. In September, 2005 alone there were 22,629 consumer complaints reported. This large volume of information has been made available to you on the web at http://gaswatch.energy.gov/reports.html .

Oil and Gas

Q3. I would also like for the Department to provide an update on the implementation of the Ultra-Deepwater and Unconventional Natural Gas program that was created by the EPAct 2005.

A3. The Department is complying, and will continue to comply with, the Energy Policy Act. In compliance with the Energy Policy Act, on November 4, 2005, the Department issued a solicitation for administration of the Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research and Development Program. The solicitation closed on February 2, 2006, and the Department has completed its review and made a selection of the consortium in May 2006, as required by the Energy Policy Act.

On April 27, 2006, Secretary Bodman transmitted to the House and Senate a legislative proposal to repeal the program. Oil and gas are mature industries and both have every incentive, particularly at today's prices, to enhance production and continue research and development of technologies on their own. There is no need for taxpayers to subsidize oil companies in these efforts.

QUESTIONS FROM REPRESENTATIVE DINGELL

Q1. Please provide a legal memorandum indicating what authority, if any, the Department has under the Nuclear Waste Policy Act, the Atomic Energy Act, or any other law, to store high-level radioactive waste and spent nuclear fuel on an interim basis?

A1. Prior to the enactment of the Nuclear Waste Policy Act of 1982 (NWPA) DOE had authority and continues to have authority, to accept spent nuclear fuel (SNF) in certain circumstances. Section 55 of the Atomic Energy Act of 1954,

as amended, (AEA) (42 U.S.C. 2075), provides that "DOE is authorized to the extent it deems necessary to effectuate the provisions of [the Act] to purchase, . . .take, requisition, condemn or otherwise acquire any special nuclear material or any interest therein." The authority under the AEA may be exercised to further any of its purposes including international cooperation and nuclear nonproliferation, support of research and development in nuclear power, and management of the U.S. nuclear defense programs. 42 U.S.C. 2111, 2112, 2013, 2051(a), and 2152.

Pursuant to this AEA authority, the Department has accepted and stored U.S. supplied foreign reactor fuel at various DOE sites. DOE has also used this authority to accept for research and development purposes small amounts of spent nuclear fuel such as parts of the Three Mile Island melted reactor core and other damaged SNF. DOE also has accepted commercial spent fuel under contracts that pre-date enactment of the Nuclear Waste Policy Act of 1982 (NWPA or the Act).

With enactment of the NWPA, Congress provided a detailed statutory scheme for commercial SNF storage and disposal that, by its specificity, severely limited the Department's commercial SNF storage and disposal options. The NWPA did not affect the Department's authority to accept spent fuel not covered by the Standard Contract mandated by the NWPA. However, the NWPA limits DOE's authority under the AEA to accept SNF from commercial reactors subject to the Standard Contract to the situations specified in the NWPA and, in very limited circumstances, to specific research and development activities that further the goals of the NWPA. 42 U.S.C.10199. The NWPA, in sections 111(a)(5) and 302(a)(4), states that SNF generators should pay for the ultimate disposal of their waste, including the interim storage of that waste until such time that the DOE accepts it for disposal. 42 U.S.C. 10131 (a)(5); 42 U.S.C. 10222(a)(4).

Consistent with this more limited authorization, the NWPA permits the Department to pay for interim storage in two distinct instances. Section 135 of the Act authorized the Department to enter into contracts to assist or provide temporary storage of small amounts of SNF until a repository was available. This authority expired in 1990. Section 141 of the Act authorizes the Department to site, construct and operate a Monitored Retrievable Storage (MRS) facility, but restricts DOE's ability to pursue this option by linking any activity under this section to almost unattainable milestones. 42 U.S.C. 10155-10157. For example, before the MRS can be constructed, the Nuclear Regulatory Commission must have issued a construction authorization license for the main repository; until the main repository starts accepting SNF, the quantity of spent fuel stored at the MRS site cannot exceed 10,000 MTUs; after the main repository starts accepting SNF, the total quantity of SNF at the MRS site cannot exceed 15,000 MTUs at any one time, and the MRS cannot be located in Nevada.

In a 1989 report to Congress regarding dry cask storage, the Department concluded that the Nuclear Waste Fund was not legally available to pay for on-site storage. That study further concluded that the Fund should not be made available "as a means of providing direct assistance to utilities in their at-reactor storage activities." See Final Version Dry Cask Storage Study at I-110 (U.S. Dept. of Energy, February 1989).

In 1994, a Notice of Inquiry on Waste Acceptance Issues (NOI) issued by the Department sought public comment on, among other issues, whether DOE had statutory authority under the NWPA to provide interim storage of SNF. 59 FR 27007 (1994). In the subsequent 1995 Final Report responding to public comments, the Department determined again that the NWPA explicitly contemplated interim storage in only two instances: interim storage under section 135 of the Act and monitored retrievable storage under section 142 of the Act. Final Interpretation of Nuclear Waste Acceptance Issues, 60 FR 21793 (1995). However, the Report also noted that the interim storage provision had expired and the MRS provisions were unusable because of the required linkages to repository development. The Report concluded that because neither of the NWPA's explicit interim storage authorities applied and because the NWF statutory uses precluded the Secretary from spending NWF monies for construction or expansion of a facility without express authorization from Congress, the Department lacked authority to provide interim storage under existing law. Specifically, the report stated:

> Interim storage by DOE was contemplated by the Act in only two situations, neither of which currently applies. Under the Act, DOE had authority to offer a limited interim storage option. See 42 U.S.C. 10156. However, that authority has, by its express terms, expired. Under the Act, DOE also has the authority to provide for interim storage in an MRS. That authority is also inapplicable, however, because the Act ties construction of an MRS to the schedule for development of a repository. See 42 U.S.C. 10165, 10168. Because these are the only interim storage authorities provided by the Act, and because the Act expressly forbids use of the Nuclear Waste Fund to construct or expand any facility without express congressional authorization (42 U.S.C. 10222(d)), DOE lacks authority under the Act to provide interim storage services under present circumstances. 60 FR 21793, 21797.

This final interpretation was later one of the issues litigated by commercial nuclear utilities seeking to have DOE begin taking their fuel in two cases filed in the U.S. Court of Appeals for the District of Columbia. See Indiana Michigan Power Co. v. Department of Energy, 88 F.3d 1272 (D.C. Cir. 1996); and Northern States Power Co. v. U.S., 128 F.3d 754 (D.C. Cir. 1997), cert. denied, 119 S. Ct. 540 (1998). In those cases the Department again reiterated that it did not have authority under the NWPA to provide interim storage of SNF.

In 1991, the State of Idaho filed suit against the Department challenging DOE's authority to ship spent nuclear fuel for storage at its Idaho facility. In that case, the 9th Circuit found that the Department's contract to store and dispose of fuel with a Colorado utility that was entered into prior to enactment of the NWPA was not subject to the NWPA's restrictions on the Department's payment of SNF storage costs. Idaho v. Department of Energy, 945 F.2d 295 (9th Cir. 1991.) In other words, this case is an anomaly that deals with spent nuclear fuel covered by a contract with DOE that pre-dates the enactment of the NWPA and provides no authority for the Department to store utility SNF under NWPA provisions.

In 2000, the Department settled one of the SNF cases in which the Department permitted a utility to offset its delay damages by taking credits against its future fee payments into the Nuclear Waste Fund (NWF). Utilities not parties to the settlement challenged the settlement on the grounds that credits to fee payments were an improper use of the NWF. That Court found that the Secretary's authority to use the NWF, while not limited to those activities explicitly set out in Section 302(d) of the NWPA (Use of the Waste Fund), did not authorize expenditures of NWF monies on settlement agreements aimed at compensating utilities for their on-site storage costs. Alabama Power v. U.S. Department of Energy 307 F.3d 1300, 1313 (11th Cir. 2002).

Q2. Please provide a legal memorandum addressing the question of whether or not the Nuclear Waste Policy Act of 1982 authorizes the Department of Energy (DOE) to use money in the Nuclear Waste Fund for activities in furtherance of the Global Nuclear Energy Partnership (GNEP).

A2. The Nuclear Waste Policy Act of 1982 authorizes the Secretary to "make expenditures from the Waste Fund [...] only for purposes of radioactive waste disposal activities [...] including: [...] any costs that may be incurred by the Secretary in connection with the transportation, treating, or packaging of spent nuclear fuel or high-level radioactive waste to be disposed of in a repository, to be stored in a monitored, retrievable storage site, or to be used in a test and evaluation facility.@ (42 U.S.C. 10222(d)). To the extent that GNEP activities involve the "treating, or packaging of spent nuclear fuel," for disposal at Yucca Mountain, such activities would come within the scope of radioactive waste disposal activities within the meaning of the Nuclear Waste Policy Act of 1982, and thus the Nuclear Waste Fund could potentially be used for such activities. Any use of the Nuclear Waste Fund for GNEP activities would require the approval of Congress through the appropriation process.

Q3. Could some of the activities DOE plans to undertake in connection with GNEP (such as research and development or waste treatment) also be characterized as integral to the Yucca Mountain repository program? If so, do you believe the Waste Fund could be used to pursue such activities?

A3. As explained above in the answer to Q2, to the extent that GNEP activities involve the treatment or packaging of spent nuclear fuel in furtherance of its disposal at Yucca Mountain, the Nuclear Waste Fund potentially could be used for these activities. Any proposed use of the Nuclear Waste Fund for such activities would require the approval of Congress through the appropriation process. The Department currently has no plans to use the Waste Fund to fund any GNEP activities.

QUESTIONS FROM CONGRESSMAN MARKEY

GNEP

Q1. How long will it take, and what will it cost to develop, deploy, and operate the UREX-ESD to the point of decision on whether to proceed to the full GNEP program?

A1. The Department would need several years of experience operating the technology demonstration facilities in parallel with the design of commercial-scale facilities. It is anticipated that commercial-scale operations could begin over the next twenty years. Initial pre-conceptual estimates are that the cost to bring the UREX+ technology demonstration facility to the point of initial operation ranges from $700 million to $1.5 billion. More detailed baseline cost and schedule estimates will be developed as part of the conceptual design and prior to a decision on whether to proceed to detailed design and construction.

Q2. Assuming a positive outcome to the ESD trials, please provide an approximate annual top line funding profile for the GNEP from FY 07 through:

a. the planned deployment and operation of the SRS MOX plant up to the point that it will exhaust the feed material coming from the Plutonium Disposition program;
b. up to the point of commercial operation of the first 2000 MTHM/yr reprocessing plant;
c. up to the point of the commercial operation of the first FBR engaged in transmutation.

A2. The Department is not currently in a position to make this determination.

Q3. Please provide a year-by-year funding profiles to completion, estimated Total Project Cost (TPC), planned construction start and completion dates, and estimated annual operating cost, for each of the following facilities identified in the FY 2007 DOE/NE budget request as being part of the GNEP program plan over the next 15 years:

- UREX + Engineering-Scale Demonstration (ESD)
- Advanced Fuel Cycle Facility (AFCF)
- Advanced Burner Reactor (ABR) prototype
- UREX + Commercial Scale Reprocessing Plant (2000 MTHM/yr)
- Idaho National Laboratory (INL) Infrastructure Support

A3. The Department is currently not in a position to make this determination. The preliminary, order-of-magnitude costs associated with the demonstration of technologies have previously been estimated to range from $3 billion to $6 billion over the next ten years to bring those technologies to the point of initial operations.

Q4. Please provide a year-by-year funding profile to completion, estimated Total Project Cost (TPC), planned construction start and completion dates, and estimated annual operating cost, for each of the following facilities identified in the FY2007 DOE/NE budget request as being part of the GNEP program plan over the next 15 years for MOX-fuel related facilities funded in the NNSA/Defense Nuclear Nonproliferation budget:

A. Pit Disassembly and Conversion Facility (PDCF), Aiken, SC
B. PDCF-MOX Waste Facility, Aiken, SC
C. Mixed Oxide (MOX) Fuel Fabrication Plant, Aiken, SC
D. U.S. Funding for analogous Russian MOX Facility and Fuels Research

A4. The plutonium disposition program and the Global Nuclear Energy Partnership are two separate programs. To implement the U.S. plutonium disposition program, DOE will build a Pit Disassembly and Conversion Facility, a MOX Fuel Fabrication Facility, and a Waste Facility at the Savannah River Site in South Carolina. For the Pit Disassembly and Conversion Facility, construction is planned to begin in 2011 and completed in 2015, with an estimated annual operating cost of approximately $100 million. For the MOX facility, construction is planned to begin in 2006 and completed in 2014, with an estimated annual operating cost of approximately $100 million. For the Waste Facility, construction is planned to begin in 2008 and completed in 2011, with an estimated annual operating cost of approximately $30 million. We are working to develop cost and schedule baselines for all three facilities that will be validated as part of the Department's critical decision process. As for the Russian plutonium disposition program, the United States and Russia currently working together to determine the technical path forward.

Q5. How many Liquid Metal Fast Burner Reactors (LMFBR) and spent fuel reprocessing plants, with what capacity, deployed when, would be required to transmute the transuranics contained in the existing backlog and projected discharges of spent fuel from U.S. reactors, such that the capacity of Yucca Mountain or a similar sized repository located elsewhere would suffice to dispose of all spent fuel discharges as claimed, to the end of the century?

A5. The number of spent fuel separations plants needed to process spent nuclear fuel depends on how many nuclear power plants are built and the size of the separation plants. The current 103 operating U.S. Light Water Reactors (LWRs) generate about 2,000 metric tons/year of spent fuel, which is roughly an appropriate annual throughput for a large chemical separation plant. Thus, there would be approximately one separation plant for every 100 LWRs. One separations plant could be sufficient for the existing inventory under certain conditions. The exact ratio of separations facilities to nuclear power plants depends on separations facility plant size, the operating lifetimes, and the number of thermal reactors and burner reactors deployed.

Q6. Based on historical costs for commercial liquid-metal breeder reactors of similar capacity, what would the first demonstration LMFBR be likely to cost? The first commercially-deployed LMFBR?

A6. DOE has estimated that it will take between $2 billion and $5 billion to develop an advanced fast test reactor in which to demonstrate the burning of transuranics and support the qualification of larger advance burner reactors. The Department has set a goal of developing the fast spectrum test reactor between 2014 and 2019. The Department would need several years of experience operating the technology demonstration facilities in parallel with the design of commercial-scale facilities. It is anticipated that commercial-scale operations could begin over the next twenty years.

Q7. Assuming production of such reactors can be standardized, what are the best, worst, and most likely or expected capital cost ratios for the LMFBR versus conventional Generation III+ LWR designs currently in the final stages of

licensing review by the NRC? What are the comparable operating-cost ratios? Fuel-cost ratios?

A7. The purpose of the Advanced Burner Test Reactor (ABTR) includes clarification and improvement of costs for future Advanced Burner Reactors. Such reactors may be slightly less expensive or more expensive than advanced LWR designs for both capital and operating costs. The cost ratios depend on the reactor type as well as whether a once-through fuel cycle or a closed fuel cycle is adopted. The cost of recycling must be weighed against the cost of the additional geologic repositories that would have to be built with the once through fuel cycle. In any case, nuclear fuel cycle costs are a minor portion of the overall cost of nuclear energy.

Q8. What evidence do you have that demonstrates or even suggests that the GNEP plutonium fuel cycle (UREX + MOX fuel in LWR's followed by pyroprocessed MOX fuels in FBR's) with transmutation can compete commercially, on a fully amortized cost-per-kilowatt basis, with LEU-fueled LWR's on a once-through cycle? With Integrated Gasified Coal Combined Cycle with Carbon Capture and Storage? With combination of increased efficiency, wind, solar, and distributed co-generation? Please provide references and or copies of studies that support your judgments and conclusions.

A8. The GNEP approach does not involve the recycle of plutonium with LWRs. The economics of the GNEP closed fuel cycle cannot be estimated with any degree of accuracy at this time, and it is one of the main purposes of the GNEP Technology Demonstration Program to assess the economics of the system. The Department believes that nuclear power is a necessity for baseload production of emissions-free electricity and expects that it will continue to be fully competitive with other electricity sources as it is today.

Q9. Which of the following countries would be treated as non-fuel cycle owning 'client-states' of the GNEP, and which would be treated as nuclear-fuel cycle states considered eligible for plutonium fuel-cycle facilities, and what is the rationale for making each determination: South Korea, Taiwan, India, Japan, China, Russia, Pakistan, South Africa, Germany, Italy, Span, Brazil, Argentina, Israel, Iran Ukraine, China, Iran Kazakhstan, Pakistan, Finland, Sweden, Belgium.

A9. GNEP's purpose is to promote nuclear energy growth worldwide using technologies, systems, and arrangements that reduce the risk of nuclear weapons proliferation. We do not envision a formal division of "fuel-cycle" versus "reactor" states, but instead a partnership that includes states at various stages of nuclear fuel cycle development. A principle we seek to advance is that states not now in possession of full scale, fully functioning enrichment and reprocessing programs should agree to refrain from pursuing those programs. Those that do agree will be eligible for reliable fuel supplies and cradle-to-grave fuel services, two important incentives to discourage additional states from closing the fuel cycle. While no formal decision has been made as to which states would qualify as fuel-cycle states, we expect at a minimum it

would include the U.S., U.K., France, Russia, China, Germany, the Netherlands, and Japan.

Q10. Which of the above named states already have nuclear cooperation agreements or other less formal arrangements with the United States allowing for the exchange of information on plutonium fuel cycles, fast reactors, and/or uranium enrichment, and what types of information can currently be shared with each state?

A10. The United States has entered into agreements for cooperation with Argentina, Australia, Bangladesh, Brazil, Bulgaria, Canada, China, Columbia, Egypt, Indonesia, Japan, Kazakhstan, the Republic of Korea, Morocco, Norway, Romania, South Africa, Switzerland, Thailand, Taiwan, and Ukraine. The United States also engages in peaceful nuclear cooperation with Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Spain, Slovenia, Sweden, and the United Kingdom under the Agreement for Cooperation with the European Atomic Energy Community (EURATOM). An agreement for cooperation is also proposed for India.

Under such agreements for cooperation, the United States may transfer information concerning the use of nuclear energy for peaceful purposes. Such transfers may include information pertaining to: nuclear reactors; the use of nuclear material in research, medicine, agriculture and industry; nuclear fuel cycle studies; safeguards and physical protection of nuclear material, equipment, and components; health, safety, and environmental considerations; and assessments of the role nuclear power may play in national energy plans. The United States may not transfer Restricted Data and sensitive nuclear technology under agreements for cooperation, unless the agreement specifically provides for the transfer of such information.

Q11. During the hearing I asked you whether India would be allowed to become a part of the GNEP program and you said, "I would think that they would not." However, press reports have quoted you as having stated, just one week earlier, that "we would think India would be a perfectly good and, in fact, an excellent participant in the GNEP program" Which is it? Is India going to be allowed to participate in GNEP or not?

A11. As an advanced state with nuclear technology, India has great potential to contribute to GNEP. We have discussed with India ways in which India might participate in GNEP. In particular, U.S. and GNEP partners would consider Indian participation in activities that are made available for international safeguards.

Q12. Has the President, you, or any other official of the United States government extended an invitation to India to join the GNEP as a "nuclear fuel-cycle state?" If so, under what circumstances would India be invited to participate? Would India be given access to UREX, pyroprocessing or other breeder reactor technologies that may be developed as part of GNEP?

A12. India has not been extended an invitation to join GNEP as a "nuclear fuel-cycle state." We will continue to have discussions with India about how it might participate in GNEP on activities that are made available for international safeguards and that do not contribute to India's weapons program. Currently, we would not be able to engage in cooperation that would involve India's fast reactor program, and we do not envision any future cooperation on reprocessing.

Indian Nationals at DOE Laboratories

Q13. Please provide a table listing how many Indian nationals have been given access to each of the Department's national laboratories over the last 5 years. Since India is a nation which is a non-signatory to the NPT and is known to have a nuclear weapons program, are any access or other restrictions placed on Indian nationals visiting the Department's national laboratories.

A13. India is included on the Department of Energy (DOE) Sensitive Countries List. Countries may appear on this list for national security, nuclear nonproliferation, or terrorism support reasons. For visit requests involving foreign nationals from countries on the Sensitive Countries List, particular consideration is given during the DOE internal review and approval process.

The requirements that must be met for an Indian or other Sensitive Country national visitor include:

- Subject matter expert reviews by security, export control, technology transfer, counterintelligence and intelligence (when there is an onsite field intelligence element);
- Indices checks by appropriate U.S. Government agencies to determine whether information exists on the foreign national;
- A specific security plan under which the visit will be conducted. The plan must address site security concerns related to the foreign national's visit, must include information on what physical areas will be accessed, and must include what information will be shared with the foreign national (to include information on the DOE Sensitive Subjects List); and
- Approval by the site/laboratory approval authority prior to access being granted. The approval authority must take into consideration all information from the review process, including subject matter expert reviews, and must evaluate potential impacts on local site operations. Determination of access approval must ensure that any identified risk to the Government associated with the access granted to the foreign national has been appropriately evaluated and mitigated.

I would like to provide a table for the record to show how many Indian nationals have been given access to each of the Department's national laboratories over the last 5 years. The information follows.

	2001	2002	2003	2004	2005
Ames Laboratory	21	29	44	43	50
Argonne National Laboratory	346	430	471	512	534
Brookhaven National Laboratory	237	258	323	372	400
Fermi National Accelerator Laboratory	58	67	96	87	79

	2001	2002	2003	2004	2005
Idaho National Engineering Laboratory	4	4	6	10	17
Lawrence Berkeley Laboratory	35	73	123	157	208
Lawrence Livermore National Laboratory	34	36	55	72	57
Los Alamos National Laboratory	15	29	39	81	163
National Energy Technology Laboratory	59	47	41	29	29
National Renewable Energy Laboratory	—	1	13	42	42
Oak Ridge National Laboratory	111	134	152	202	221
Pacific Northwest National Laboratory	51	45	79	109	104
Princeton Plasma Physics Laboratory	—	—	1	2	3
Sandia National Laboratories, Albuquerque	8	28	32	9	43
Sandia National Laboratories, Livermore, CA	12	26	21	28	19
Stanford Linear Accelerator Center	1	1	33	77	91
Thomas Jefferson National Accelerator Facility	1	1	17	15	17
Total	993	1,209	1,546	1,847	2,077

GNEP

Q15. In light of the U.S. government's obligation under Article 1 of the Nuclear Nonproliferation Treaty "not in any way to assist, encourage or induce any non-nuclear-weapon state to manufacture or otherwise acquire nuclear weapons," India's refusal to place its fast reactors, other reactors, and sensitive nuclear fuel-cycle facilities under IAEA peaceful uses, please explain how India, a "non-nuclear weapon state" for the purposes of the NPT, could participate in nuclear technology sharing under the GNEP without the US violating its Article I NPT obligation?

A15. While we are prepared to discuss ways in which India might participate in GNEP, it is clear that India could only participate in those areas that have been declared as civil and placed under international safeguards. The purpose of safeguards is to ensure that peaceful nuclear transfers are not diverted to India's weapons program. In this way, such transfers from GNEP partners to India would be in accordance with U.S. law, treaty obligations, and policies. We currently would not be able to engage in cooperation and technology sharing related to India's fast reactor program as long as it is not part of the civil program, and do not envision any future cooperation on reprocessing.

Q16. During the hearing you indicated that you were not at all troubled by the fact that the recently signed U.S.-Indian nuclear deal would exclude India's existing fast reactors from safeguards, and allow India to exclude future fast reactors from safeguards. If India's existing fast reactors are excluded from safeguards, how many bombs worth of material could they produce annually?

A16. India does not currently have any fast reactors that produce more plutonium than they consume. India's only existing fast reactor— the Fast Breeder Test Reactor (FBTR) — consumes more fissile material than it produces and, over time, reduces India's overall stockpile of plutonium. Although India has used weapon-grade plutonium to fuel the FBTR core in the past, this type of reactor also offers the possibility of burning reactor-grade plutonium in the core to produce a small amount of weapon-grade plutonium annually, though not enough for a single weapon.

Q17. During the hearing I asked you whether the Department has approved any Part 810 nuclear technology transfer to India since the President's July 18, 2005 announcement, and you indicated you had not. I also asked whether there were any pending requests before the Department for approval of such transfers and you indicated you would supply this information for the Record. Please provide this information now.

A17. No. Since the July 18, 2005 Presidential announcement, the Department has received no requests for nuclear technology transfers to India requiring authorizations under 10 CFR Part 810.

Q18. During the hearing I noted that "a recent scientific analysis has concluded that the UREX separated product (in this instance comprised of plutonium plus neptunium, curium, and americium) has a radiation dose rate three orders of magnitude lower than the IAEA threshold for self-protection." I then asked you whether you would "agree that a material that is three orders of magnitude below the IAEA levels isn't really self protected?" You answered with a simple "No," but declined to offer any evidence or argument in support of your position. Please explain the technical or other basis for your answer?

A18. Physical protection measures, including radiation barriers, are designed to address one aspect of the proliferation problem by preventing unauthorized theft or diversion, whether criminal organizations, terrorists, or others. But the proliferation resistance of any fuel cycle depends on many additional factors, including international safeguards to detect and deter diversion and the structure of international cooperation and export control arrangements that take into account such factors as the nonproliferation record of the countries hosting sensitive nuclear facilities and regional stability.

GNEP aims to develop and demonstrate technologies that are more proliferation-resistant and therefore advance nonproliferation goals, but this concept needs to be viewed broadly. The GNEP model works because only the supplier states will be engaged in the recycling of spent fuel. These are states with strong non-proliferation records, already possess advanced nuclear technology, and in most cases, are nuclear weapons states.

The plutonium mix from UREX+ would not meet the self-protection standard of spent fuel and, therefore, the physical protection measures and safeguards associated with the process will need to be stringent. Nonetheless, the material would be significantly more difficult to handle than separated plutonium and mixed oxide fuel which are already the global norm for commercial recycled fuel. Therefore UREX+ represents a significant improvement over current separations technology.

One of the principal objectives of GNEP is to develop successor technologies to those in commercial use today. These technologies would be more proliferation resistant and more robust, by design, from a physical protection standpoint, and would employ advanced international safeguards. These processes will be under IAEA verification auspices. GNEP will also consider a variety of recycling approaches, beginning with the one that is most mature, UREX+.

Q19. I also noted that someone in your position would likely be aware of the fact that the critical masses of the transuaranic elements separated together with plutonium in the UREX process are large(r) than plutonium, an excellent nuclear weapons materials, but smaller than U-235, also an excellent nuclear weapons material? So from a critical mass perspective, I noted that it was my understanding that the UREX product is intermediate between these two excellent nuclear weapons materials, and therefore potentially usable in weapons. I asked you to explain how this mixture could be considered as affording increased proliferation resistance. You replied, "it is my position that the use of the output of the UREX process is not useful to making a nuclear weapon." I recognize this may be your position, but I am wondering whether it is supported by nuclear weapons experts at the DOE laboratories and independent scientists and experts. Please provide the technical basis for your position on this important issue for the record, and inform the committee whether there are different views regarding this issue among experts at the DOE laboratories, and what the substance of those differing views are.

A19. Your question about the relative attractiveness of different nuclear materials for nuclear weapons use requires a classified answer. Basically, UREX+ has multiple intrinsic and extrinsic features that will be engineered in to maintain proliferation resistance of the process. The classified response can be provided through the appropriate channels.

Q20. To achieve the reductions in the volume and heat loading of nuclear waste requiring long-term isolation in a permanent repository, I'm informed that you're going to need a lot more than your requested UREX-plus demonstration plant. In fact, to credibly deliver on its forecast benefit for waste management, it has been estimated that your GNEP program would require the next 100 or more new commercial reactors worldwide to be fast reactors. In the United States alone this adds an extra 80 billion (dollars) to 100 billion (dollars) requirement for 20 to 25 fast reactors just to transmute the fuel discharge from existing U.S. power reactors. Globally this would hundreds to billions or trillions of dollars to the cost of nuclear generated electricity.

In reply, you stated that you disagreed with my statement, but again offered no evidence or argument to support your answer. Since you disagreed with the estimated requirements that I suggested would need to be met in order to credibly transmute the fuel discharged from existing U.S. power reactors, please provide your own estimate of the number, capacity, and cost of US fast reactors, MOX thermal reactors, and reprocessing plants required to ensure that a single repository the size of Yucca Mountain would suffice, as advertised, until the year 2100? Please identify the major analytical assumptions that enter into your estimate.

A20. In order to eliminate the transuranic elements (that dominate long term heat load, toxicity, and dose) created during LWR fuel irradiation three technologies are needed: (1) an advanced separations technology such as UREX+ technology that can separate the various constituents of the irradiated fuel, (2) fast reactors, that can eliminate transuranic elements through the fission process, and (3) fast reactor fuel cycle technologies that will put these elements into a form suitable for irradiation in fast reactors. In order to consume the transuranic elements produced by the current reactors operating in the U.S., approximately 30GWe of installed fast reactor capability would be needed (*i.e.,* one advanced burner reactor would be required for every four to ten light-water commercial power reactors).

Early, pre-conceptual order-of-magnitude estimates of the cost to bring these three integrated recycle demonstration facilities to the point of initial operation range from $3 billion to $6 billion. While more accurate estimates of cost of commercial scale facilities will be developed as the technology matures and the demonstrations are conducted, a key objective of the GNEP technology demonstration is to reduce the future cost of commercial scale facilities.

Q21. Under the GNEP rubric, DOE is also seeking to advance a possible follow-on reprocessing technology, called "pyro-processing," for extracting plutonium from the future advanced burner reactor's fuel elements. This process would result in a highly radioactive byproduct of fission – Ce-144 – remaining in the separated transuranic product stream containing the plutonium *in metallic form* (i.e. one step closer to weapons). But Ce-144 has a radioactive "half-life" of only 0.8 years, and *will have decayed away to insignificance for "self-protection" purposes by the time the advanced burner reactor fuel is reprocessed*. In light of this fact, why do you consider pyro-processing as offering meaningfully enhanced "proliferation resistance?

A21. In contrast to current international practice with the PUREX process, GNEP recycling would keep several transuranic elements together at all times; plutonium is never separated from the others. In fact, it does not appear possible to separate plutonium from other transuranic elements via pyroprocessing. The other transuranic elements make the recycled material far more difficult to handle than plutonium alone. The Department would not depend on short-lived fission products for proliferation resistance. In contrast, the self protection of current used nuclear fuel, accumulating around the country is limited to several decades. GNEP would consume the weapon-usable material via recycling, rather than pass the responsibility to future generations.

Q22. Because pyro-processing produces a metal fuel, some GNEP scientists are now proposing to revert to metal-fueled fast reactors for transmutation. These designs are known to be less safe than fast reactors using ceramic oxide fuels, which in turn are less safe than today's conventional light water reactors. Do you agree with this reasoning, and if so, what is gained from accepting the higher safety risks of pyro-processed fuels?

A22. The Department does not agree that metal-fueled reactors are less safe than oxide-fueled reactors. Sodium-cooled fast reactors with metal-alloy fuel are extremely safe. For example, the metal-alloy fueled EBR-II test reactor in Idaho demonstrated experimentally that it could survive very severe off-normal conditions, in large part because sodium is an excellent coolant and because of several favorable safety characteristics of metal fuels. Metal fuels have higher thermal conductivity and expand more during high-temperature conditions than oxide fuels. As a result, EBR-II demonstrated that as temperatures increase, nuclear power rate drops without the need for safety systems or operator action – a significant safety feature.

Q23. Could transmutation be accomplished in fast reactors with MOX fuels? In conventional LWR's with MOX fuels?

A23. Transmutation is easier in fast reactors than thermal reactors because the higher energy neutrons in fast reactors can split, or fission, more of the transuranic isotopes. Transmutation can be accomplished in both reactors using several types of fuels; the type of fuel appropriate for a particular reactor depends in part on the coolant of that reactor. For light water reactors (LWRs), the current fuel is uranium oxide, so transmutation could use mixed oxides of uranium and plutonium. Nevertheless, it is expected that the transmutation of minor actinides (e.g., americium and curium) would be particularly difficult in LWRs. For fast reactors, several candidate fuels are under consideration, including mixed oxides, metals, carbides, or nitrides. All could accomplish transmutation but at this point only oxide and metal fuels are sufficiently mature to offer a high probability of success.

Appliance Standards

Q24. The appliance standards program is small in its funding, but huge in its impact on our energy situation. I helped pass the provision in the 1987 and 1992 laws requiring DOE to set many of the standards, so I've been distressed as year after year passed and the deadlines slipped and slipped. DOE has now missed legal deadlines for setting standards on about twenty products. A few weeks ago you issued a plan and schedule for issuing the required standards over the next six years. That is an improvement. But I'm still shocked at how slow even your target dates are. The first standards, other than for certain ceiling fan niche products, would be on furnaces and highest priorities for years. DOE issued Advanced Notices of Proposed Rulemaking (ANOPR) on these products, accompanied by hundreds of pages of technical analysis, back in July of 2004. According to DOE's own guidelines, it should not take more than 18 months from the Advanced Notice to issuing the final rule. It's already been more than 18 months. But now you say you need another 19 months to issue the rule. Why do you need another 19 months to get your highest priority standards out?

A24. On January 31, 2006, the Department published its rulemaking schedules in a Report to Congress. "Energy Conservation Standards Activities Submitted Pursuant to Section 141 of the Energy Policy Act of 2005." As documented in the Report, the Department is no longer using a priority setting process but is using a schedule setting process that ensures that all backlog rulemaking requirements are completed by June 2011. The published schedule also allows the Department to stay on schedule for the new rulemaking responsibilities in EPACT 2005. The schedule is firm and achievable, but if one rulemaking is selectively accelerated it would cause delays in other parts of the schedule. The Department will use the remaining time in the schedule relating to furnaces to publish the Notice of Proposed Rulemaking (NOPR), solicit public comment, and complete the final rule. The Department recognizes the importance of this rulemaking and is dedicated to meeting the September 2007 final rule date as set forth in the Report to Congress.

Q25. What have you done on these products-supposedly your Department's highest priorities-since issuing the "ANOPR" 19 months ago?

A25. Regarding the residential furnaces and boilers rulemaking, we have conducted the analyses required to prepare the notice of proposed rulemaking (NOPR) and we are in the final stages of completing the NOPR. The ANOPR public meeting was held on September 29, 2004, and the comment period closed on November 10, 2004. Because of the Department's commitment to stakeholder involvement and because of the complexity of the analyses, the staff reviewed over 40 different categories of comments from over 100 individual commenters resulting in significant analysis changes during the NOPR phase. A number of critical issues were raised including safety concerns over necessary venting, an investigation into furnace fan electricity consumption as a result of EPACT 2005, and significant changes in AEO 2006 natural gas price forecasts which led to additional analyses.

Q26. When do you expect to issue the Notice of Proposed Rulemaking?

A26. We expect to publish it by September 2006, and stay on schedule to meet the September 2007 final rule publication date.

Q27. The furnace standard could eventually save 187 billion cubic feet of natural gas a year, which would help relieve pressure on tight supplies and bring down prices, and it will save consumers billions of dollars. Don't you feel some urgency to get these out?

A27. Yes. The Department recognizes the importance of this rulemaking and is dedicated to meeting the September 2007 final rule date as set forth in the report to Congress.

Energy Situation

Q28. The Administration's National Energy Policy and the energy bill that finally passed last year were spurred in part by a spike in energy prices in 2001. Since

then, prices have only risen higher as rising demand squeezes supply. Last year gasoline prices nationwide shot up to over $3 a gallon for the first time, roughly double prices at the beginning of 2004. Wholesale natural gas prices, which had doubled between 2002 and the beginning of this year, doubled again by the end of last August. These price increases have cost consumers hundreds of billions of dollars. Yet the proposed budget would cut energy efficiency programs at the EERE office, which are intended to address the demand side of the problem, by 18%. This would be the fifth cut in a row-the budget provides one-third less funding than these programs received in FY2002. You have recognized energy efficiency as a critical response to the nation's energy challenges, but the budget does not seem to recognize that fact. Do you believe that the funding for energy efficiency programs in the budget match the nation's need for saving energy?

A28. The Department's FY 2007 budget represents an aggressive, focused and appropriately balanced approach to developing and deploying the technologies that will help to improve the Nation's energy efficiency.

The Department's FY 2007 budget request maintains robust funding levels in a variety of energy efficiency programs. Funding for energy efficient vehicle technologies, exclusive of Congressionally directed activities and transfers, is level compared to the FY 2006 appropriation. Funding for the Building Technologies program is level with 2006 appropriations on a comparable basis, excluding transfer of some activities into the program (which actually increase the Building Technology funding total by about $8 million). While funding for the Federal Energy Management Program (FEMP) is $2 million below the FY 2006 appropriation, that decrease reflects the contribution of new efficiencies within the program that will allow the Department to achieve more with less. The reduction in FEMP is offset by a $2 million increase in Technology Advancement and Outreach, which will consolidate and streamline EERE outreach efforts. With regard to Industrial Technologies, high energy prices give the industrial sector incentive to reduce their own energy use.

Q29. Programs to increase deployment of energy-efficiency technologies have the most immediate impact on energy demand, yet the budget would eliminate several of these programs and cut almost all the others. If there is a national interest in saving energy, why should we cut the programs to accomplish that goal?

A29. Facing greater uncertainty over the price of petroleum, the Department concluded that reducing America's growing dependence on foreign oil is the highest priority for the Office of Energy Efficiency and Renewable Energy in FY 2007 and we have directed our resources to those programs with the greatest potential to contribute to that goal. Thus, priority has been given to science and technology R&D initiatives, such as the Advanced Energy Initiative, to develop clean, affordable sources of energy that will help reduce the use of fossil fuels and lead to changes in the way we power our homes, businesses and cars.

Q30. Will this budget leave the Department prepared to promote energy efficiency in case there are more price spikes next year due to natural disasters or foreign events?

A30. The Department is always prepared to reach out to the public on energy efficiency. The vehicles for reaching large numbers of people, i.e., the consumer information site and the EERE information center, are flexible and can expand to meet increases in demand with minimal effort.

In addition, the Department's request includes a $2 million increase in the Technology Advancement and Outreach activity designed specifically to further promote communications with consumers, industry, States, and other Federal programs. This is more than double the 2006 appropriation.

Q32. Mr. Secretary, given the Administration's public support for reducing America's dependence on oil, can you tell the Committee just what the President meant by setting a goal of reducing our Mideast oil imports by 75% by 2020 (**NOTE: this is presumably a typo. The President said 2025, not 2020)**. By how many million barrels a day do you hope to reduce U.S. oil consumption?

A32. Reducing America's dependency on imported oil has been and will continue to be a priority for this Administration. The goal President Bush set forth in his State of the Union address was not a change in policy, but the acceleration of a priority. To achieve this goal, we must accelerate our research in energy technologies that will fundamentally transform how we produce and consume energy.

Diversification of our energy supply has always been a priority of this Administration. Since 2001, the Administration has spent nearly $10 billion to develop cleaner, cheaper and more reliable energy sources. The Advanced Energy Initiative (AEI) will accelerate investment into clean energy technologies in order to transform the way we produce and use energy in our homes, business and our transportation sector. To achieve these goals, the President has requested $2.1 billion in FY 2007 - a 22 percent budget increase - to develop new technologies and alternative sources of energy to help diversify and strengthen our nation's energy mix. The AEI is focusing on technologies that we believe hold the greatest promise for American taxpayers, including solar, biofuels, hydrogen, nuclear, and clean coal technology.

As part of President Bush's Advanced Energy Initiative, the FY 2007 budget request for the Hydrogen Fuel Initiative increased by $53 million over FY 2006 to $289.5 million to accelerate the development of hydrogen fuel cells and affordable hydrogen production, storage, and infrastructure technologies. The Administration estimates that, if hydrogen reaches its full potential, the Hydrogen Fuel Initiative and FreedomCAR program could reduce our oil demand by over 11 million barrels per day by 2040 – approximately the same amount of crude oil America imports today.

Oil Savings

Q33. If we are serious about addressing our "addiction" to oil, don't you think we need to invest more in vehicle efficiency as well as in new fuels?

A33. Transportation research remains a key factor in our plans to decrease the Nation's dependence on foreign oil, and DOE's request strongly supports this goal. Although it appears that we are asking for less money in the Vehicle Technologies Program, a closer look at the details shows that the FY 2006 appropriation contains more than $20 million in congressionally directed activities that do not directly support the Vehicle Technologies Program's mission and goals. Once an adjustment is made for these Congressionally directed activities and program transfers, it becomes clear that DOE's FY 2007 budget request is level with the FY 2006 appropriation. Additionally, this year's request realigns some internal priorities by placing greater emphasis on those research activities with the greatest potential for oil savings, particularly to increase funding for the development of lithium-ion batteries and other technologies for plug-in hybrid vehicles.

Q34. Is the Administration planning to review transportation and vehicle policies as well as research funding in order to address this serious problem? While I recognize that research funding is an important component of a long-term strategy, don't you believe that this problem is urgent enough to require immediate action?

A34. In addition to the research and technology development that is planned under the President's Advanced Energy Initiative, transportation and policy options will be evaluated to determine their effectiveness in addressing this issue. Many near term transportation policy options fall under the purview of the Department of Transportation and policy tools such as tax incentives are primarily the responsibility of the Department of Treasury.

Energy Bill

Q35. Last year the Congress passed an energy bill for the first time since 1992, authorizing a number of new energy-efficiency programs on public education, utility efficiency programs, building codes, appliance rebates, and other areas. Yet I am hard-pressed to see all the work we did on that bill reflected in the proposed budget. Please explain this budget discrepancy.

A35. The Department prioritized activities, including those authorized under EPACT, that would most contribute to the goal of reducing America's growing dependence on foreign oil. Thus, priority was given to science and technology R&D initiatives, such as the Advanced Energy Initiative, to develop clean, affordable sources of energy that will help reduce the use of fossil fuels and lead to changes in the way we power our homes, businesses and cars. The 2007 Budget reflects the Department's priorities.

As noted in the Statement of Administration Policy (SAP) submitted to energy bill conferees on July 17, 2005, "The House and Senate versions of H.R. 6 also include authorization levels that in many cases significantly exceed the

President's Budget. These authorizations set unrealistic targets and expectations for future program –funding decisions." House and Senate SAPs contained similar language.

Q36. Are there any new energy-efficiency programs authorized in the Energy Policy Act of 2005 that are fully funded in the proposed budget?

A36. There are no new EERE programs funded at levels authorized in the Energy Policy Act of 2005. As noted in the Statement of Administration Policy (SAP) submitted to energy bill conferees on July 17, 2005, "The House and Senate versions of H.R. 6 also include authorization levels that in many cases significantly exceed the President's Budget. These authorizations set unrealistic targets and expectations for future program –funding decisions." House and Senate SAPs contained similar language.

The Department prioritized activities, including those authorized under EPACT, that would most contribute to the goal of reducing America's growing dependence on foreign oil. Thus, priority was given to science and technology R&D initiatives, such as the Advanced Energy Initiative, to develop clean, affordable sources of energy that will help reduce the use of fossil fuels and lead to changes in the way we power our homes, businesses and cars. The 2007 Budget reflects the Department's priorities.

Q37. Does this budget allow you sufficient funding to implement the energy bill, including the added requirements on the appliance standards, federal energy management, and Energy Star programs, reporting requirements, and other provisions?

A37. Yes, the 2007 Budget provides sufficient funding to implement the requirements you mention. However, the 2007 Budget does not provide funding for all programs authorized in the Energy Policy Act. The Department's priorities are reflected in the 2007 Budget.

Public Education

Q38. Public education is the quickest way to reduce energy use and address current energy prices and supply-demand imbalance. Yet there is almost no money for public education on energy efficiency in the budget, despite a $90 million authorization in last year's energy law. Mr. Secretary, you have spent a great deal of time trying to educate the public about their energy consumption. How much funding would be available for proactive energy-efficiency public education programs under this budget? Where is that funding in the budget?

A38. If approved, the FY 2007 budget would provide $3.5 million for support of energy efficiency and renewable energy public education and outreach, more than double 2006 appropriations. This funding is located in the Technology Advancement and Outreach activity within the Program Support portion of the budget.

Of course, this is not the only place funding is requested. Most of the EERE program offices do some form of public education and outreach. For example, the Solar program supports the Solar Decathlon, a university competition held biannually on the National Mall that promotes awareness of solar technologies among the general population. The Vehicle Technologies program supports an Advanced Vehicle Competition that also serves to educate the public. It also supports development of the Fuel Economy Guide (www.fueleconomy.gov). And every EERE program produces pamphlets about their respective technologies and updates their websites with the latest information useful for consumers. For example, the Building Technologies program website offers consumer tips for saving energy around the house and information on new tax credits in the Energy Policy Act of 2005 (http://www.eere.energy.gov/buildings/info/).

Q39. What is your plan for using those funds, including plans for partnering or contracting with other organizations?

A39. The $3.5 million for Technology Advancement and Outreach will be used to continue and expand the operations of the EERE Information Service and the EERE Consumer Website. It is expected the inquiries to the EERE Information Center will grow as energy concerns continue. It is also expected that newly developed products, technologies and information on energy efficiency and renewable energy will need to be added to the Consumer Information Page and to the portfolio of the EERE Information Center expertise. EERE is always evaluating the opportunities to cooperate with private sector organizations and other government entities as evidenced by the Powerful Savings effort. We will continue to evaluate proposals from outside partners as they come to us to determine the benefit of our joining in already developed partnerships and seek out new partners as energy information needs require.

We are looking at the possibility of:
Expanding our "Energy Hog" campaign– Using existing interactive web program for kids and redeveloping and distributing this to elementary schools to incorporate as part of their education discussions on energy.
Industry partnering on renewable initiatives – Looking at participating in public/private partnership which would further some of the renewable initiatives we have.

Final decisions will be made when funding is available and opportunities present themselves. EERE is currently developing a Request For Proposal seeking support for its outreach efforts. The contractor selected from this process will support the Office of Technology Advancement and Outreach in making timely information on energy efficiency and renewable technologies and processes available to the public.

Q40. Can you describe current public education efforts, funding levels, and how effective you think those efforts are?

A40. In addition to government-only funded outreach mechanisms, EERE is involved with private sector partners, such as the Alliance to Save Energy to

promote energy efficiency and alert citizens to the means by which they can save energy and money at home and on the road:

Powerful Savings—A joint effort with the Alliance to Save Energy to promote energy savings in the home and on the road through proactive media placement, satellite media tours, joint public appearances and support for printing the "PowerSmart" book. Funding: $150,000.

Power is in Your Hands—A joint effort led by the Alliance to Save Energy and including the Environmental Protection Agency, American Gas Association, DOW Chemical and many others. The effort developed public service announcement newspaper ads and paid advertising to promote energy efficiency during the winter heating season. Using paid and free media, the effort directed consumers to information on how they could save energy. Funding: $100,000.

EnergyHog—An effort started by the Colorado Energy Office and currently managed by the Alliance to Save Energy, the education program involves Home Depot, the Northern American Insulation Manufacturers and more than 10 state energy offices. EnergyHog is a three-year program to educate young and old on energy efficiency through the use of public service announcements (radio, television and billboard) directing the public to a website with information on energy savings directed at both adult and juvenile audiences. Funding: $975,000 over three years.

Consumer Information Sites—Web based sites within the Department of Energy home page providing information to consumers on ways they can save energy or use renewable energy technologies. Additionally, the Energysavers.gov website directs consumers to energy saving information at DOE, the Department of Housing and Urban Development and the Environmental Protection Agency. Funding: $20,000 for EnergySavers. DOE consumer site is funded as part of the overall website budget and provides links to information at a number of sites, so separate budget information is not available. The EERE websites have recorded more than 28.8 million web pages viewed in FY2005.

Consumer Directed Preprinted Newspaper Articles—Through the North American Precis Syndicate, 10 preprinted newspaper articles were distributed to 10,000 weekly and small daily newspapers across the country with information on energy efficiency and renewable energy technologies. Five of the articles were translated for distribution to Spanish language newspapers. Estimated audience reached for the English articles was more than 329 million readers and more than 22 million for the Spanish language articles. Funding: $50,000.

EERE Information Center—EERE maintains a toll free telephone service to answer consumer inquiries on energy efficiency and renewable energy. The service responds to some 20,000 inquiries per year and distributes more than 225,000 documents to consumers, businesses and schools. Funding: $2.2 million.

FEMP

Q41. Last fall in the wake of the hurricanes you and President Bush gave a series of speeches strongly urging Americans to use energy more efficiently, and President Bush directed all federal agencies to conserve fuels a much as possible. Yet the proposed budget would cut the Federal Energy Management Program, which leads the government-wide effort to save energy, by another 12%. Is this "leading by example," is this setting a good example for the American people in investing in energy efficiency?

A41. The 2007 Energy Efficiency and Renewable Energy budget request for the Federal Energy Management Program is $2 million below 2006 enacted due to streamlining the Program's management, training and communications efforts. We expect to be able to achieve the same, or better, results at the 2007 request level. It's noteworthy that FEMP Federal employees are funded through the Program Direction line item. So the FEMP budget does not represent the full amount of resources dedicated to improving Federal energy efficiency. Also, our Technology Advancement and Outreach request increases by $2 million. Some of these funds will be used to promote deployment of energy efficient technologies.

In response to Hurricanes Katrina and Rita, FEMP led an effort to show federal agencies how to reduce their natural gas consumption and expenses through relatively low cost, operations and maintenance methods. To that end, FEMP sent Energy Saving Expert Teams to 28 sites in November and December of 2005. These teams identified opportunities for federal agencies to save almost 10% of their natural gas consumption, or about $6.5 million annually at current natural gas prices. FEMP will continue to work with the sites to follow through with the recommendations of the teams.

Q42. Wouldn't additional funding for FEMP save the federal government more money than it would cost by reducing energy waste?

A42. We believe the FEMP 2007 budget allows it to provide adequate support to facilitate Federal agency progress in implementing cost effective energy efficiency and renewable energy measures. We expect similar or better results from FEMP activities compared to previous years, because of efforts to streamline the Program's management, training and communications efforts.

Q43. The Energy Policy Act of 2005 reauthorized Energy Savings Performance Contracts, a program which allows federal agencies to contract with energy service companies to upgrade the efficiency of federal buildings, with the payment for these services coming out of the reduction in the agency's utility bills. This is an innovative program that has saved millions of tax dollars. How many ESPCs has the federal government entered into since authority for the contracts was first restored in October 2004?

A43. The ESPC program has rebounded well after the lapse in legal authority. During the third and fourth quarters of FY 2005 and the first quarter of FY 2006, the Department of Energy facilitated awards on 15 ESPC projects.

We agree that ESPCs are important for saving energy for the Federal government. However, we note that the program has not saved millions of taxpayer dollars. Reduced energy cost savings from an ESPC is used to pay back the energy service company (ESCO) for its initial investment, plus interest at private sector financing rates. Generally, only after the contract term (average ~17 years) would the government actually save money, assuming the energy conservation measures would still produce savings after the contract term.

Q44. What is the Department of Energy doing to encourage federal agencies to take advantage of this program?

A44. The Department is providing expert Energy Savings Performance Contract Project Facilitators to federal agencies to ensure the process is user friendly and expedient; standardizing templates and report requirements for each phase of the contract process, especially for measurement and verification; educating agencies on their roles and responsibilities through workshops and web-based training opportunities; and recommending that future ESPC indefinite delivery, indefinite quantity contracts are consolidated into one umbrella contract for the federal government.

Building Codes

Q45. A small DOE program to assist states in setting and achieving compliance with their building energy codes leverages a few million dollars to improve the efficiency of every new building in much of the country. It has been rated the most cost-effective of all DOE programs assisting states. Yet the proposed budget would eliminate it. Mr. Secretary, I do not see how it makes sense to cut such a valuable program at a time where there is so much building occurring around the country. Doesn't it make sense to provide a national source of technical expertise on the national model building codes, rather than trying to make each of the 50 states replicate that expertise? Why would you eliminate this highly effective program?

A45. The Department's FY 2007 budget request includes an increase of $13.8 million for the State Energy Program to support the Energy Policy Act as appropriate and as they determine their own priorities. States can choose to use funding from the State Energy Program formula grants to support programs that increase building code compliance. The Department believes that the States have developed sufficient expertise and capability to upgrade, implement and enforce their building energy codes and has requested no specific funding for increasing and verifying compliance with national model building codes in FY 2007.

Q46. The budget would also reduce funding for analysis of the national model building energy codes. Among other responsibilities this program is required, every time there is an update to a model energy code, to make a determination within a year on whether the code would save energy. Not on the cost or other impacts, just on whether it would or would not save energy. DOE has not yet made a determination on the 2003 IECC residential code, the 2004 supplement

to that code, the 2001 ASHRAE commercial standard, or the 2004 ASHRAE standard (and now there is a 2006 IECC residential code). When do you expect to make a determination on these codes and standards, and on which versions?

A46. We expect to make a joint determination regarding the 2003 IECC and the 2006 IECC by December 30, 2006. We have no plans to make a determination regarding the 2004 supplement to the IECC because this interim document has been superseded by the 2006 IECC. We expect to make a joint determination regarding ASHRAE Standard 90.1-2004 by December 30, 2006.

Q47. Does the budget include sufficient funding and staff to make the required determinations?

A47. Yes, the Department's FY 2007 budget request reflects the resources needed to complete the required determinations for building codes.

National Lab Layoffs

Q48. When President Bush visited the National Renewable Energy Lab recently, DOE announced it had found funds to reverse layoffs there. However, I understand that Lawrence Berkeley National Lab also has recently laid off a couple dozen people in its energy efficiency program. In particular, the lab has been a key contractor in doing the technical analysis for the appliance standards, but has had to lay off about half of its group of experienced analysts-about a dozen people-even as Congress has increased funding for this program. Why are these posts being eliminated?

A48. The changes in appliance standards work levels at Lawrence Berkeley National Lab (LBNL) are needed in order to accelerate our productivity and meet the schedules presented to Congress. LBNL management is working closely with the Department on several critical rulemakings that are included in the published schedule and we fully intend to use LBNL resources in the context of the program's overall resource plan.

On January 31, 2006, the Department published its rulemaking schedules in a report to Congress "Energy Conservation Standards Activities Submitted Pursuant to Section 141 of the Energy Policy Act of 2005." Chapter 6 of this report documents numerous productivity enhancements and changes the Department has made to expedite its rulemaking process. New management processes, including review and reporting requirements, have been instituted. Productivity improvements in the rulemaking program are taking effect and will significantly increase the number of new standards to be issued. As documented in the report, the recent and forthcoming process improvements will increase the standards output by increasing the number of products in the active rulemaking process, by bundling multiple products into single rulemakings, by shortening the time to complete successive rulemakings, and by implementing other productivity-enhancing techniques.

Many of the posts at LBNL that are being eliminated were held by part-time employees whose contributions to specific technical rulemakings were minimal and are no longer needed or are being performed at other locations due to the

productivity improvements. LBNL involvement has also been reduced in areas of project management and fiscal management because those functions are being performed at the Project Management Center of the Office of Energy Efficiency and Renewable Energy.

Q49. Will the loss of this expertise affect the work on appliance standards, and how do you plan to replace it?

A49. No. Many of the posts at LBNL that are being eliminated were held by part-time employees whose contributions to specific technical rulemakings were minimal and are no longer needed or are being performed at other locations due to the productivity improvements. LBNL involvement has also been reduced in areas of project management and fiscal management because those functions are being performed at the Project Management Center of the Office of Energy Efficiency and Renewable Energy.

Q50. How will these layoffs affect the new schedule for completing required rulemakings on appliance standards?

A50. The schedule was designed in light of significant changes that needed to be made to the Department's resource plan for appliance standards, including contractor resources. The Department's schedule will not be affected by these layoffs.

Q51. Will you commit to restoring funds to reverse the layoffs at Lawrence Berkeley National Lab as well?

A51. No. The changes in appliance standards work levels at Lawrence Berkeley National Lab (LBNL) are needed in order to accelerate our productivity and meet the schedules presented to Congress. LBNL management is working closely with the Department on several critical rulemakings that are included in the published schedule and we fully intend to use LBNL resources in the context of the program's overall resource plan.

Oil and Gas

Q52. The Administration's budget request rightly calls for cancellation of both the Oil Technology and Natural Gas Technologies research and development programs, as well as the Ultradeep Water and Unconventional Resources program that was created by last year's Energy Policy Act, noting that "the budget proposes to repeal the [Ultradeep and Unconventional] program through a future legislative proposal, consistent with the decision to terminate the discretionary Oil and Gas programs." I applaud this announcement by the Administration. When can we expect the Administration's future legislative proposal to be introduced?

A52. Secretary Bodman transmitted the legislative proposal to the House and Senate on April 27, 2006.

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