HEARING TO RECEIVE TESTIMONY ON ENVIRONMENTAL MANAGEMENT FUNDING IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2011 AND FUNDING UNDER THE AMERICAN RECOVERY AND REINVESTMENT ACT

WEDNESDAY, APRIL 21, 2010

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC FORCES,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:42 p.m. in room SR–222, Russell Senate Office Building, Senator E. Benjamin Nelson (chairman of the subcommittee) presiding.

Committee members present: Senators E. Benjamin Nelson and Bingaman.

Majority staff member present: Madelyn R. Creedon, counsel.

Minority staff member present: Daniel A. Lerner, professional staff member.

Staff assistants present: Kevin A. Cronin and Breon N. Wells.

Committee members' assistants present: Ann Premer, assistant to Senator Ben Nelson; Jonathan Epstein, assistant to Senator Bingaman; and Lenwood Landrum, assistant to Senator Sessions.

OPENING STATEMENT OF SENATOR E. BENJAMIN NELSON, CHAIRMAN

Senator BEN NELSON. This committee, subcommittee hearing will come to order. I apologize for the delay. Votes seem to get in the way of the rest of our work. But we're starting nevertheless.

I'm sorry my ranking member, Senator Vitter, is not going to be able to join us today. So I will fly solo here.

Good afternoon, Dr. Triay, and welcome. We're pleased to have you here. This afternoon the Subcommittee on Strategic Forces meets to discuss the Department of Energy's environmental management program budget request for fiscal year 2011 and the progress that's been made in implementing the $6 billion received under the American Recovery and Reinvestment Act.

With us we have Dr. Inez Triay, the assistant Secretary of Energy for Environmental Management.

Cleaning up the vast quantities of radioactive and hazardous waste and contamination which are the result of the Cold War nuclear weapons and materials production programs is an expensive

and daunting task. This cleanup effort has been ongoing for 20 years and will most probably require another 40 years to complete, ironically about the same length as the Cold War itself. This effort is hugely expensive and technically challenging, with over $110 billion spent to date and approximately another $250 billion or so left to go.

With President Obama's decision in the Nuclear Posture Review to modernize the nuclear weapons complex, more facilities will fall to the Office of Environmental Management to clean up and tear down.

Dr. Triay, you have a difficult job with many complex challenges facing you, not the least of which is the management, treatment, and disposition of the highly radioactive waste in the tanks at the Department of Energy's Hanford, Savannah River, and Idaho facilities. Construction of the waste treatment plant at Hanford to deal with the 55 million gallons of waste stored at that site continues to be difficult as there are many unresolved technical and safety issues associated with the construction of the facility.

The additional funds in the budget request dedicated to accelerating the design of the plant are certainly needed. But this committee wants to ensure that the technical and operational safety issues are resolved so that additional redesign is not needed again at some time in the future. This plan has been plagued by repeated changes in requirements and design, which has resulted in high concurrency in design and construction, all of which is factored into the increased cost of the project over the years.

I recognize that the problems with this facility long predate your tenure as assistant Secretary, Dr. Triay. But as you know all too well, you get to fix them. Last year, shortly after your confirmation this subcommittee held a hearing on your plans to implement the $6 billion in Recovery Act funding. According to the DOE Inspector General, implementation of this effort is now behind schedule.

On the other hand, it's more important that these funds be spent wisely rather than quickly to really accelerate the cleanup efforts and to reduce overall program costs. If these funds help to substantially reduce the projected $250 billion or more necessary in future cleanup costs, then this money is being well spent.

So we look forward to your report on the projects and the progress of this effort as well. Obviously, there's a lot to discuss, so I want to keep my opening remarks short.

Dr. Triay, your prepared statement will be included in the record and you may begin.

STATEMENT OF HON. INÈS R. TRIAY, ASSISTANT SECRETARY FOR ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF ENERGY

Dr. TRIAY. Thank you very much, Chairman Nelson. Good afternoon to you and the members of the subcommittee, Senator Bingaman. I'm pleased to be here today and to address your questions regarding the Office of Environmental Management's fiscal year 2011 budget request.

The Office of Environmental Management's mission is to complete the legacy environmental cleanup left by the Cold War in a safe, secure, and compliant manner. I am very pleased that we're

able to present to Congress a budget that positions the program to be fully compliant with our regulatory commitments and supports reducing the risks associate with one of our highest environmental risk activities, tank waste, as well as achieve quicker reduction across the legacy cleanup complex.

My goal remains to complete quality cleanup work safely, on schedule, and within costs, in order to deliver demonstrated value to the American taxpayer. Environmental management cleanup objectives will continue to be advanced in fiscal year 2011 by the infusion of the $6 billion from the American Recovery and Reinvestment Act of 2009. Through April 2010, the Office of Environmental Management has obligated $5.6 billion and spent $1.7 billion, respectively, leading to thousands of jobs created and-or saved at our sites.

In fiscal year 2011, the Office of Environmental Management will continue to draw on the $6 billion of Recovery Act funds to advance key cleanup goals. Recovery Act funds allowed the Office of Environmental Management to meet all of our regulatory compliance requirements in fiscal year 2011. This funding has also allowed the Office of Environmental Management to leverage base program dollars, enabling the reduction of our operating footprint from 900 square miles to approximately 540 square miles by the end of fiscal year 2011. This is a 40 percent reduction, which will position the program to advance forward the ultimate goal of 90 percent reduction by the end of fiscal year 2015.

We were also able to accelerate the legacy cleanup at Brookhaven National Laboratory and the Separations Process Research Unit in New York and the Stanford Linear Accelerator Center in California into fiscal year 2011 with Recovery Act funding.

This budget request strikes a balance between maintaining support for the Office of Environmental Management's core commitments and programs while strengthening investments in activities needed to ensure the long-term success of our cleanup mission. This budget request significantly increases the Office of Environmental Management's investments in science and technology that are critical to our long-term successes.

Specifically, this request targets $60 million in funding to Hanford's Office of River Protection to use in developing and deploying new technologies for treating tank waste. This funding is needed to address near-term technical risks that have been identified, but it's also needed to leverage and bring forward new technologies that could help us mitigate the life cycle cleanup of these wastes.

The Office of Environmental Management will also continue to strengthen in deploy groundwater and decontamination and decommissioning cleanup technologies. Specifically, we will continue the development of an integrated high-performance computer modeling capability for waste degradation and contaminant release. This state of the art scientific tool will enable robust and standardized assessments of performance and risks for cleanup and closure activities. This tool will also help us better estimate cleanup time, costs, and reduce uncertainties.

The request also provides an additional $50 million to accelerate the waste treatment and immobilization plant at Hanford, boosting the budget for the plant to $740 million in fiscal year 2011. The

additional funding will be used to accelerate completion of the design for the waste treatment and immobilization plant. Prior to design completion, it is critical that technical issues are addressed and incorporated in a timely manner. Our intent is to mitigate these risks early and get the design matured to 90 or 100 percent.

The fiscal year 2011 request makes a significant investment in the decontamination and the decommissioning of the Portsmouth Gaseous Diffusion Plant located in Ohio. This investment enables the Office of Environmental Management to accelerate the cleanup of the Portsmouth site by 15 to 20 years, leading to a significant reduction in the duration and cost of the cleanup.

Now that I have given an overview of our fiscal year budget request, I would also like to take a few moments to discuss some of the areas I will be focusing on as the program moves forward. The Office of Environmental Management continues to adhere to a safety-first culture that integrates environment, safety, and health requirements and controls into all work activities.

Our first priority continues to be the health and safety of our employees and the community surrounding our cleanup sites. It is my duty to ensure that our workers go home as healthy and fit as they came to work.

Under my leadership, the program has embarked upon a journey to excellence. We have developed a new business model which provides a solid management base for the Office of Environmental Management to become an excellent, high- performing organization. This implementation is key to performing our cleanup mission effectively and efficiently.

A key component in this process is the alignment and understanding of headquarters and field operational roles and responsibilities. Toward that end, our management's attention will continue to focus on improving project management, aligning project and contract management, streamlining the acquisition process, and continuing our very strong performance in awarding cleanup work to small businesses.

We will continue to conduct construction project reviews. These reviews examine all aspects of a construction project, including project management, technology, and engineering. These reviews assess the progress of each of our major projects and determine their overall health and ability to meet cost and schedule goals. These reviews are scheduled approximately every 6 to 9 months and are conducted to provide the Office of Environmental Management leadership the ability to proactively reduce project risks so that issues and solutions can be identified early, rather than react once problems are realized.

With these improvements, we're confident that the environmental management program can succeed in its mission. Chairman Nelson and members of the subcommittee, I look forward to addressing your questions.

[The prepared statement of Dr. Triay follows:]

Senator BEN NELSON. Thank you.

I apologize for overlooking giving my colleague Senator Bingaman an opportunity to make an opening statement.

Senator BINGAMAN. I was just here to ask questions, Mr. Chairman.

Senator BEN NELSON. As a matter of seeking forgiveness, let me ask you to start with the questions.

Senator BINGAMAN. Well, thank you. I'm glad to be here and I welcome Inez Triay. She's someone we claim in New Mexico. She got started at Los Alamos as a scientist and then worked as field director for DOE down at Carlsbad at the Waste Isolation Pilot Plant there. So she has a lot of friends and strong admirers in New Mexico.

Let me just ask a few questions, first about Los Alamos and then about the WIPP project, if I could. As you know, we have this consent order that's resulted from litigation with the State of New Mexico there in Los Alamos with regard to environmental cleanup. What is the annual budget that's needed in your view to meet the milestones that are set out in that consent order? Is what we've got in this budget adequate to do that? Do we need to add additional money? What's your thought on that?

Dr. TRIAY. Between the Recovery Act—I mean, the Los Alamos National Laboratory cleanup program obtained about $211 million of Recovery Act funds, and in addition the President has requested $200 million for 2011. We are poised to meet all of our compliance milestones in 2011, and in addition Secretary Chu has called for a 45-day review, Senator Bingaman, of how we are delivering the cleanup work at Los Alamos. As you know, NNSA, the NNSA Act, mandates that we essentially have no one from the Department of Energy directing NNSA officials or contractors. So we believe that there are opportunities for becoming more efficient and more effective when we do this 45-day review.

We intend to brief you, your office, thoroughly on this. We know that you're extremely interested in finding those efficiencies and at the same time making sure that we have all the resources that are needed at Los Alamos in order to meet those compliance milestones. So we will be looking forward to that interaction in about 45 days from now.

Senator BINGAMAN. On this issue of NNSA's authority and your efforts to accomplish the requirements that you have for environmental management there, would it make more sense to have a separate EM contract for the cleanup work at Los Alamos, instead of having to go through the NNSA to try to get them to get this done?

Dr. TRIAY. In this 45-day review that Secretary Chu has called for, one of the things that are going to be looked at is exactly those type of—that type of question. So we are going to be looking at all options when it comes to how to effectively streamline the operation.

I offer, however, that for the Recovery Act we are performing cleanup with the construct that we have now, with the NNSA contractor in charge of the cleanup, and we have been able to within the Recovery Act construct be very efficient when it comes to the cleanup of Technical Area 21, the old plutonium facility at Los Alamos that is right there at the center of the main town of Los Alamos.

So we are going to take those lessons learned. We are going to take the lessons that we have learned over the many years that we have been working between NNSA and EM as fully partnered and

we are going to come up with recommendations to the Secretary that are shared between EM and NNSA and fully brief you on the deliberations, as well as the recommendations.

Senator BINGAMAN. There has been a lot of interest and concern there in northern New Mexico about this issue of possible contamination of water. I gather your office has been working with the Buckman Diversion that the City of Santa Fe is part of to put proper monitoring in place on that issue. Could you describe that briefly?

Dr. TRIAY. Yes. The NNSA is crafting a memo of agreement and the Environmental Management Office is fully participating. We believe that the early detection of contaminants is essential with respect to this particular diversion project. We are very committed to working hand in glove with NNSA and with the State of New Mexico. We understand the huge importance of this effort and we believe that early detection is the way to press forward. So we're very committed to finishing that memo of agreement and moving forward with the funding necessary for that early detection.

Senator BINGAMAN. I had a few questions on the WIPP project. Should I do those now as well?

Senator BEN NELSON. Sure.

Senator BINGAMAN. My understanding is that the WIPP operations in fiscal year 2011 have asked for an additional $7 million to maintain current disposal operations. That's a figure I was given. Do you have any estimates as to what is required in order to maintain current operations there? I know they're proceeding with the disposal of waste at WIPP at a faster rate than was originally thought or planned for. I'd just be interested in any thoughts you've got as to whether they're able to maintain that rate under the budget you've proposed?

Dr. TRIAY. The Waste Isolation Pilot Plant project obtained Recovery Act funds, I believe $172 million, in addition to the President's request for 2011. I think that, with respect to the throughput of waste, we are going to be able to meet all of the needs of the complex and be able to meet our compliance milestones, which are not of the Waste Isolation Plant, but that plant allows places like Idaho, like Savannah River site, to meet the compliance milestones that they have.

As always, we work very closely with our Waste Isolation Pilot Plant waste program to try to integrate all of the needs of the complex and what are the throughputs that we can actually achieve. As you know because you are so knowledgeable on the WIPP operation, by increasing the throughput we get to economies of scale at the WIPP site. The more throughput of waste we have into the WIPP facility, the less the cost per unit per cubic meters disposed of becomes. So we are always coming up with strategic initiatives to try to increase that throughput. But between the Recovery Act and the President's request, we believe that all of the compliance milestones in the complex can be appropriately addressed in the area of transuranic wastes.

Senator BINGAMAN. Let me ask one other question on WIPP. I understand that there's been some detection of rising levels of trichloroethylene, or TCE, from the waste drums that are disposed of at WIPP. I was wondering if you've reached a determination as to

whether that poses any hazard, if there are measures being taken to compensate for that or deal with that problem?

Dr. TRIAY. I'm happy to discuss this. We have been working with the New Mexico Environment Department and some of the levels of the organics, which are carbon tetrachloride, are elevated as a result of the waste that comes from Idaho. What we have done is we have instituted three measures. One of them is exactly as you described, which is to take measurements before the workers enter the different areas in the repository where there could be elevated organic levels.

The other two measures involve mitigation. One of them deals with filtering of the actual waste, installing filters in the containers that have the actual waste that comes from Idaho, to ensure that in moving forward we don't continue to increase the levels of organics in the repository.

The third one is that we have actually installed a filtration unit in the repository itself. We have been working with the New Mexico Environmental Department because recently the Environmental Protection Agency changed some of the risk factors associated with carbon tetrachloride. Having said that, we are completely committed, Senator Bingaman, to make sure that these levels of organics do not pose any threat to our workers or to the public or the environment. So we are working very closely with the New Mexico Environmental Department and we expect that these mitigations that we have put in place will actually address any potential issues.

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

Thank you very much.

Senator BEN NELSON. Thank you, Senator.

The Environmental Management received $6 billion from the Recovery Act funding, as I mentioned in my opening remarks. As you indicate in your testimony, $1.7 billion has been spent. My understanding is that you'll have until the end of 2011 to spend these funds. I assume there's a plan and would you tell us what the plan is and will all the funds be necessary in the cleanup, or is it possible some of them might be returned to the Treasury?

Dr. TRIAY. We have a substantial amount of work that has been designated for the Recovery Act. We believe that we are on track for our internal goal of spending the Recovery Act dollars by the end of 2011. We funded all of our projects to 80 percent confidence.

We intend to reduce the footprint of the entire environmental management complex by 40 percent by 2011. At the end of the day, the environmental management program that essentially involves the cleanup of 50 years of nuclear weapons production is a huge liability to the Federal Government and to your efforts. We believe that the investment of the Recovery Act is going to reduce that ultimate liability.

For instance, with the Recovery Act we have identified $4 billion of reductions in life cycle costs. In addition to that, we have identified over $3 billion of cost avoidance moving forward. So the return on investment of the Recovery Act if you look at the amount of money that has been invested versus the amount of money that could be saved and avoided in terms of expenditures moving forward is on the order of 120 percent return on investment.

We have been able to train workers and get them to work fast. We have 5600 workers that are direct contractors. We have subcontractors from those prime contractors to the Department of Energy, and overall we have 9,200 workers. In the Recovery Act, we are going to be able to dramatically reduce the decontamination and decommissioning activities moving forward in this program, clean up soils and groundwaters, be able to dispose of transuranic and low-level waste, and ultimately reduce the contaminated areas of the environmental management cleanup dramatically by 2011.

So I would submit that, based on the rate of expenditure, based on the amount of jobs that have been created and the amount of progress that we have already made and intend to make, this is a very good investment for the taxpayer.

Senator BEN NELSON. Thank you.

The goal of the stimulus funding was to accelerate the cleanup by dealing with the so-called shovel-ready projects that had not already been funded. In addition, it was to provide for jobs, and what I hear you saying is 9200 workers. Last year I think the testimony was that you expected that there might be in the order of 13,000 contractors' jobs. Is that 9200 the top number or is there still a possibility that there might be more with the expenditures in 2011?

Dr. TRIAY. What we actually—the way these jobs are counted, we count the actual employees that are working directly in prime contracts to the Department of Energy. Those in turn hire other subcontractors, and if you add those two that's the 9,200.

In addition to that, this program, the environmental management program, utilizes a lot of materials, for instance the containers that we use for shipping waste to the Waste Isolation Pilot Plant that are manufactured in Carlsbad, New Mexico. When you actually look at all of the individuals that have benefited from being part of the Recovery Act, our count is that that is at 16,000 employees that have been part of these efforts, which then would include vendors such as the individuals that are manufacturing the containers that we ship the waste to WIPP, individuals that are providing the cement for some of the activities that are going on in South Carolina in terms of decontaminating, decommissioning, and dealing with reactors in South Carolina.

When you count all of that, we have been able to substantiate 16,000 individuals actually benefiting from the Recovery Act. I would like to point out, if you allow me, that when we talk about subcontractors or vendors, the Recovery Act in the environmental management program truly has been a success story when it comes to small business. In 2009, between the base program and the Recovery Act, as well as the small businesses, the small business awards that came from our prime contractors, we awarded $2.5 billion to small businesses in the fiscal year 2009.

We counted what that meant. It's that over 20 percent of the dollars spent in 2009 went indeed to small businesses and were spent by small businesses. So I just point out that in terms of stimulus, economic stimulus, I believe that we have good facts to show for the $1.7 billion that we have spent.

Senator BEN NELSON. Very good.

The original estimate was that about 60 percent of the funding would go to the Savannah River and Hanford sites. Is this still the plan?

Dr. TRIAY. Yes. Hanford receives $1.9 billion and Savannah River $1.6 billion, respectively.

Senator BEN NELSON. Are there any issues, technical or otherwise, that might interfere with Hanford or Savannah?

Dr. TRIAY. The work at Hanford and Savannah River overall is going extremely well. At Hanford we have committed to a goal of 40 percent reduction and a dramatic reduction of the facilities that are contaminated with radioactivity, waste disposal as well as soils and groundwater decontamination. If anything, our internal goals now surpass that 40 percent footprint reduction.

At Savannah River, the same type of commitment to footprint reduction. The work is being done in a manner that—actually, at the beginning we had some problems with the Savannah River site, but the Recovery Act portfolio has been turned around and right now our internal goal for Savannah River footprint reduction is well over 60 percent, even though the official commitment is 40 percent footprint reduction by 2011. We think that we can do better than that.

At Savannah River, as a matter of fact, one of the main activities that we think that we can accomplish is the reduction of the amount of transuranic wastes that we have stored at the facility. We are going to be able to dispose of most of the transuranic waste from this large site, Savannah River, at the Waste Isolation Pilot Plant by the end of 2011.

Senator BEN NELSON. As you know, the National Defense Authorization Act for fiscal year 2010 directed the GAO to report periodically on the Recovery Act cleanup efforts. These briefings will be provided every 120 days, with the next one due at the end of April. The last one was at the end of December 2009. And each site was to have a Recovery Act coordinator to monitor execution of the projects. In December, according to the GAO, Savannah River did not have one of these site coordinators. Do you know whether they do now?

Dr. TRIAY. Yes, they do. What was done at Savannah, instead of having a site coordinator, was that headquarters deployed one of our senior executives to the Savannah River site in order to address the project management issues that were encountered in the Savannah River site Recovery Act portfolio at the beginning of the program. Now those project management issues have been addressed. We have implemented all of the corrective actions that the Office of Engineering and Construction Management oversees with respect to project management in the Recovery Act projects. One of the Federal project directors at the site, certified at the highest level of certification, has taken over the Recovery Act projects, and in addition to that we have been able to deploy a site coordinator to the Savannah River site.

Senator BEN NELSON. GAO also reported that these Recovery Act projects were going to be defined as either capital or non-capital assets. What's the definition for each type of project, beyond a capital asset being a project above $20 million?

Dr. TRIAY. What we noticed in the environmental management program was that we had whole entire programs, projects, and that we needed to restructure the portfolio, which in fact was something that Deputy Secretary Poneman encouraged in his last memo on project management to all of the departmental elements.

The capital projects are essentially construction projects when we actually are building a particular facility. Cleanup projects are projects where we are not building a particular facility, but instead we're performing cleanup operations that then in turn modify the status of a particular facility. For instance, removing fixtures from a facility that is contaminated and sending that contaminated material to a landfill, as well as ultimately demolishing the facility. Essentially, it goes to the amount of assets that the Department of Energy has. For that reason, even though we're not building anything, we actually still count that as part of the project management portfolio that is part of DOE Order 413.

Senator BEN NELSON. GAO in their December review identified some potential issues that could impact success. I'd like to go through each of these issues and see if any of these have been in fact a problem. Number one, do sites have sufficient personnel to manage and oversee contracts for Recovery Act projects? I guess part of the answer would be when you're ahead of schedule, doing better than you thought, that would be the case. But overall do the sites have adequate personnel?

Dr. TRIAY. We always struggle with the amount of Federal staff and to achieve that right balance when it comes to the amount of staffing. Some years ago, as a result of a National Academy of Public Administration report, the Environmental Management Office increased the Federal staff significantly, by about 300 Federal employees. So we think that we are poised to move forward with the Recovery Act as well as the base activities. Like you point out, our Recovery Act work is going very well, but we have added coordinators to all of the sites and those coordinators are trying to streamline the decisionmaking, the communications, between the site and headquarters. We think that that is probably a model that allows us to operate with less Federal staff moving forward.

Senator BEN NELSON. With the influx of newly hired workers there, is it possible to sufficiently train them to work safely in hazardous environments?

Dr. TRIAY. We have chosen the portfolio of the Recovery Act carefully to choose the type of activities where we have proven technologies with an established regulatory framework and a track record of training workers that come from construction, the construction field, training workers that come from different trades, into being able to work in the field of nuclear activities and in facilities that are heavily contaminated with radioactivity.

Our safety record continues to be extremely solid, very robust safety record. We have been actually encouraged by the interest that the existing workers have taken to train the new workers that are coming in to work on Recovery Act. So we have proven that the training, the work control, the integrated safety management approaches that we use in the environmental management program allow for an influx of workers and to maintain our safety record.

Senator BEN NELSON. Now, can the existing disposal sites accommodate the newly created waste from Recovery Act projects, such as the demolitions and what have you?

Dr. TRIAY. Absolutely. We have one Federal facility for low-level waste and that is Nevada Test Site, and we have two commercial facilities for low-level waste. we use heavily Energy Solutions in Utah and what Energy Solutions tells me is that they can get better economies of scale if we actually send even more waste than what we're sending now.

So I believe that the commercial facilities as well as the Federal facilities are adequate, have adequate capacity to deal with the amount of waste that we have identified for disposal.

With respect to the Waste Isolation Pilot Plant, I think that you heard Senator Bingaman asking me whether we even needed more resources to try to maintain the amount of throughput that we have achieved in 2010 with the Recovery Act. So this is not a matter of lack of capability at the Waste Isolation Pilot Plant or—which is for transuranic wastes—or for the facilities that are utilized for disposal of low-level waste.

Senator BEN NELSON. Are you encountering any challenges with local or State environmental regulatory agreements that might delay complete projects? I heard Senator Bingaman ask about the lawsuit. Will this involve delay or in some way impede your progress?

Dr. TRIAY. The case that Senator Bingaman was referring to actually was resolved. There was litigation, potential litigation, and we resolved that lawsuit with the fence-to-face cleanup compliance order at Los Alamos National Laboratory. We actually have worked collaboratively with the regulators. Our regulators meet with us often, not only at the site level, but also at the headquarters level. They have been cooperative. They are extremely interested in facilitating our Recovery Act activities.

The portfolio itself was chosen for activities that have a well-established regulatory framework under the compliance agreements that were already part of the environmental management program and that have been negotiated and that had clear milestones. So I believe that the regulatory framework for the Recovery Act activities allows us to complete all the work in the portfolio, and we even have projects if some of the projects that we are moving forward with have some of the contingencies associated with them available for further effort. Even those projects also have a well-established regulatory framework that we can use to move forward.

Senator BEN NELSON. In the January '09 report to Congress, the cost to complete the balance of DOE's cleanup program based on projects that had been identified by that time was somewhere between $250 to $300 billion. Since that time, President Obama has issued the Nuclear Posture Review, wherein he's committed to modernize the nuclear weapons complex, replacing two, the last two and the hardest, most expensive and complicated of the old facilities, and building some new facilities as well.

In addition, we note that the fiscal year 2010 budget request doesn't include any out years funding. So really the question I have is, is that $250 billion number inclusive of what has been proposed in the latest budget, or are we looking at 250 to $300 billion for

what was known in 2009 and everything being discussed in 2010 or in the President's comments about replacement, was that on top of the number?

Dr. TRIAY. Some time ago, about a year and a half ago, the environmental management program sent a report to Congress on excess facilities that had already been identified that were not currently part of the environmental management portfolio. The Recovery Act has allowed us to move forward with the decontamination and decommissioning of some of those excess facilities. But the price tag associated with those excess facilities was on the order of 5 to $9 billion, and that was not fully included in the life cycle costs of the environmental management program because those were not facilities that were officially part of the environmental management portfolio.

The Recovery Act has allowed a lot of the work that needs to occur on those excess facilities, and maybe some of the work at Y–12, at Los Alamos National Laboratory, and other places to move forward. But the bottom line is that the excess facilities as a result of the future needs of the complex is indeed a number that always appears to be in some amount of flux, because the weapons complex moves forward identifying different facilities that now need to be part of the EM portfolio. That happens in a very interactive manner.

But I think we have a good handle on the amount of effort that those excess facilities will require moving forward, and we have shared that with Congress in our report. In addition to that, we've worked very closely with NNSA to try to identify what else is it that they might need in terms of excess facilities as we move forward with our portfolio in EM.

Senator BEN NELSON. But at the end of the day, is it still going to be in the range of $250 billion or $300 billion, with all the adjustments? I realize this is dynamic, but obviously I'm concerned about what the moving parts and the changes can mean to the total projected figure.

Dr. TRIAY. I hate to commit that it's going to be less, but I would like to offer the following. We have been extremely concerned about that life cycle cost and we have been looking at investments that can actually significantly lower that life cycle cost. So like I was saying, for the Recovery Act investments we see return on investment that is on the order of 120 percent. What that means is that the life cycle cost will be reduced next year when we send our life cycle cost to Congress as a result of the investment in the Recovery Act.

So even if some of the additional facilities that were not in the life cycle costs come in, my intent is for the life cycle cost to still be less than the life cycle costs that you have delineated, even with the additional efforts of the excess facilities coming in. Not only the investments of Recovery Act, but in addition I talked about the investment in technology development and in particular in the area of tank wastes at the Savannah River site and at the Hanford site. We believe that with some of those investments that we have made and are making in the technology development portfolio, we can actually significantly reduce the life cycle costs of the tank wastes by

tens of billions of dollars and reduce the period of execution by decades.

So my intent is to not only accept those excess facilities as they need to come into the environmental management cleanup program, but work on the portfolio that I do have now so that that life cycle cost decreases as a result of these investments that we're making now in Recovery Act as well as in technology development for the tank waste. That is my objective. I know that that is the objective of the Department of Energy. We know that this liability weighs large in your defense portfolio.

Senator BEN NELSON. And I know you'll do your best, and I suspect you know I'll be asking you the same question next year.

Dr. TRIAY. I'm counting on it.

Senator BEN NELSON. To see if there have been any changes that would modify that number.

Dr. TRIAY. Very good, absolutely.

Senator BEN NELSON. Thank you.

The January 2009 report identified a number of enforceable milestones at several sites that were at risk of not being met. Will the recovery funds and the rest of the funds allow any of these milestones to be met that probably weren't going to be achieved according to that '09 report?

Dr. TRIAY. Absolutely. The Recovery Act has been instrumental in changing those facts. In fiscal year 2009 we completed successfully 72 out of 74 major milestones. Essentially, over 95 percent of the milestones were met. In 2010 and 2011 we have on the order of the same amount of milestones and we intend to meet and complete successfully 100 percent of them.

Senator BEN NELSON. Then can you just for the record provide a list of those that have been achieved, as well as those that have yet to be accomplished?

Dr. TRIAY. I would be happy to. As a matter of fact, the environmental management program decided to publish the milestones, the upcoming milestones, and the success that we have in meeting them on the web site, so that we can have meaningful dialogue with our colleagues that were concerned about exactly how many milestones are we meeting, how are we completing our efforts. So we would be happy to provide that for the record.

[The information referred to follows:]

Senator BEN NELSON. Very good.

The statute that required that January 2009 report also directed the GAO to review the report. GAO completed its review and submitted its report in June. The GAO had several issues with respect to the report, but I'd like to just highlight a couple of them.

The report was supposed to include an assessment of whether legislative changes or clarifications would improve or accelerate cleanup. The report did not address this requirement, as the report was submitted shortly before President Obama took office and this section was deferred to the new administration.

In the year that you've been the assistant Secretary, have you had an opportunity to make such an assessment, and if you did what are your results?

Dr. TRIAY. We have made assessments in terms of what would be things that could be changed moving forward, and during the

current tenure of the administration we actually have been sharing that within the environmental management program and we would be ready to start vetting that through the entire Department of Energy. The situation was at that time that, for the reasons that you describe, we felt that to get ahead of the new administration was something that was not useful for the environmental management program to do in this particular report.

But we always complete analysis of the things that could be improved, things that could be considered, deliberations that we could make in a very, very complex regulatory framework, and we are always ready and prepared for those kinds of deliberations within the Department and ultimately within the administration.

Senator BEN NELSON. The report was also supposed to list the major mandatory milestones and if those milestones were not going to be met to identify the reason. For example, was it a technical or a financial reason. This element wasn't addressed. Do you have some information for the record on that that you would submit?

Dr. TRIAY. Absolutely, I'd be happy to do so.

[The information referred to follows:]

Senator BEN NELSON. Thank you.

There's a significant quantity of uranium-233 stored at Oak Ridge. The material has special security and safety requirements for storage, but it's also potentially useful for medical isotopes to treat cancer. In May 2008 a DOE inspector general report recommended that the material be retained. Nevertheless, EM is now tasked with disposing of the material. The budget request seeks—the budget request seeks funding for design in 2011, with the assumption that construction on the disposition facility will begin in 2012 and will cost between 400 and $500 million to build.

Is there any effort in the Department to revisit the decision on disposition of the uranium-233?

Dr. TRIAY. We're always poised to revisit that decision. This is an area that, with my work at Los Alamos, I've always understood the concerns of the inspector general. At the time of the report of the inspector general, we encouraged our colleagues in the Office of Science, in the Office of Nuclear Energy, to ask again from their cadre of experts, as well as private industry, to see whether there was need for this particular material and to see whether our plans were appropriate.

Even after that last inspector general report, we were informed by our colleagues in the Office of Science, the Office of Nuclear Energy, that normally have under their purview the radioisotopes that need to be utilized not only in the Department, but also in private industry, that there was no interest in retaining this material and that we should move forward expeditiously to disposition of it. They pointed out to us that the security costs associated with the facility where these materials were at actually add a liability to the portfolio of the Office of Science.

So I understand the value of radioisotopes, having worked so many years in the isotope and nuclear chemistry division of Los Alamos National Laboratory. But from what we can ascertain as a result of this particular last analysis that was performed when that inspector general report was issued, there is no value to this mate-

rial at this moment, and we were asked to move forward with the disposition of this material.

Senator BEN NELSON. The Defense Nuclear Facility Safety Board has raised a number of nuclear safety concerns about the efforts to redesign the waste treatment plant. I understand that the basis of the concern is the need to technically understand the operational safety ramifications of the proposed changes. I also understand that there is progress between EM and DNFSB in resolving the changes, including the safety of the post-jet mixers.

What's the schedule to resolve these issues and does the DNFSB have all the documentation that it's requested?

Dr. TRIAY. There's two main areas, the jet post mixers as well as the hydrogenating pipes and ancillary vessels. With respect to the jet post mixers, we have a commitment for finishing addressing all the remaining issues by June 30. What we have done in that area is come up with a path forward that addresses the concerns, some of the concerns that the board has had in terms of accumulation of waste in some of the vessels of the waste treatment plant by, in addition to completing the testing that we committed to completing, also make sure that we have the capability at the waste treatment plant to look into the vessels and make sure that accumulation is not occurring and when it is occurring a capability to move the waste out of those vessels and into vessels where it has been proven—smaller vessels, where it has been proven that thorough mixing can indeed, effective mixing, can indeed occur.

So we believe that we can work effectively with the board to address the remaining issues associated with mixing of the waste at the waste treatment plant.

With respect to the hydrogenating pipes and ancillary vessels, the board and the Department have discussed the chartering of a group of experts, that actually has been chartered, to look at exactly how we are applying the code dealing with potential hydrogen behavior in these pipes and vessels. The board of experts' work is coming to resolution and we expect to be able to sit down with the Defense Board and make absolutely certain that they have all of their questions answered.

We are confident that we're going to be able to do just that and that we're going to be able to assure the Defense Board that indeed this fast forward results in safe operations of the waste treatment plant after it starts treating waste.

Senator BEN NELSON. The board also was worried that the process to assess hazards at the Hanford tank farm and the operating procedures are too complex or unexecutable, which can result in ad hoc changes. Do we have a schedule in place to resolve these issues?

Dr. TRIAY. Absolutely. The field manager of the Office of River Protection is an expert herself on nuclear safety and she has taken an extremely active interest in addressing the issues that the board has laid out. As you know, we have a contractor at the tank farm at Hanford that is the same contractor that has operated the tank farms at the Savannah River site for many years. So this gives us a unique opportunity to have the same type of procedures and protocols that were used at the tank farms at the Savannah River site now adapted to the Hanford tank farms. The Savannah River site

tank farms have been operated safely for many, many years, even when we are actually encapsulating the waste already in glass form and we have vitrified a lot of the waste in the tank farms.

So based on that, I am confident that we're going to be able to address the issues presented by the board. Both the contractor as well as the Federal staff are very committed to effective, efficient, and prompt attention to these issues pointed out by the board.

Senator BEN NELSON. The EM program as well as other parts of the Department of Energy has had to supplement some underfunded pension funds. It's been particularly true at Savannah River. Do you see a need to add more money to these funds in fiscal years 2010 or 2011?

Dr. TRIAY. I'm sorry?

Senator BEN NELSON. It's a matter of underfunding. In the past the EM program has had to supplement underfunded pension plans, in other words put more money in to bring them up to the level, the required level.

Dr. TRIAY. We actually in the Department, we have looked at the policy that was promulgated in order to fund pensions, and in the year 2010 and 2011 we intend to fund to a ERISA minimum as long as the fund doesn't fall below 60 percent. I believe that right now both in 2010 and 2011 we have an appropriate amount of funding delineated in our budget in order to meet the policy of the Department to fund to the ERISA minimum. So the funding request of 2011 is sufficient. The pension plan will be funded to the requirements mandated by law, and in 2010 we actually intend to look at exactly how much funding was delineated for—designated for pensions, and we are going to be looking at that within the Department to make sure that we put all of the funding that we have to optimal use in 2010. No underfunding in 2011.

Senator BEN NELSON. Well, I urge you to be sure and do that, because any pattern of underfunding only mortgages the future further. So we'd rather have current requirements currently met and not have to make up underfunding at a later date. It's a budgetary nightmare, because it will come due.

Dr. TRIAY. Absolutely.

Senator BEN NELSON. You mentioned vitrified high- level waste. That's sort of the question of what to do without Yucca Mountain. I don't think—while the question is being studied for location, in the interim will additional storage facilities have to be constructed at any of the current sites?

Dr. TRIAY. We actually in our portfolio for the environmental management program considered that the waste was going to be stored after it was encapsulated in glass for decades. So far, we see minimal impact as a result of a potential delay for moving forward with an ultimate disposal for the high-level waste that is going to be generated as a result of vitrification.

Also, borosilicate glass is an international standard for extreme protection of human health and the environment. So we think that continuing to encapsulate our high-level waste in glass is a robust path forward within the deliberations that the blue ribbon commission will entertain.

Senator BEN NELSON. Well, that concludes my questions. Is there anything that you would like to add to what you've already said in your statement and the answers to the questions?

Dr. TRIAY. Thank you for the opportunity. What I would like to add, sometimes it's not as clear the type of work that the environmental management program does to facilitate, to allow some of the critical activities of the NNSA portfolio. For instance, when it comes to nonproliferation activities both domestic and international, it is the work of the environmental management program that in great measure allows the work of the NNSA for things that need to happen in order to secure nuclear materials.

We in the environmental management program are responsible for the consolidation of all of the plutonium from NNSA sites, as well as EM sites. We in the environmental management program are responsible for the consolidation of highly enriched uranium fuel that comes from international efforts to reduce the nuclear proliferation issues. Recently we celebrated the fuel that came from Chile, and indeed that fuel is stored at the Savannah River site under the purview of the environmental management program activities.

All of the highly enriched uranium, all of the uranium disposition as well as plutonium disposition activities are funded by the environmental management efforts working on the defense portfolio for the country. Our Waste Isolation Pilot Plant is the only deep geologic repository that is operational and that takes all of the waste associated with the activities related to anything that we do in the NNSA portfolio associated with plutonium.

So thank you for the opportunity to point out that our work really facilitates in great measure important work of the NNSA sites.

Senator BEN NELSON. Well, thank you, doctor. We appreciate very much your testimony.

With that, we're adjourned. Thank you so much.

[Whereupon, at 3:50 p.m., the subcommittee adjourned.]