

HEARING TO RECEIVE TESTIMONY ON STRATEGIC FORCES PROGRAMS OF THE NATIONAL NUCLEAR SECURITY ADMINISTRATION IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2011

WEDNESDAY, APRIL 14, 2010

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

The subcommittee met, pursuant to notice, at 2:32 p.m. in room SR-222, Russell Senate Office Building, Senator E. Benjamin Nelson (chairman of the Subcommittee, presiding).

Committee members present: Senators Ben Nelson, Reed, Bingaman, Sessions, and Vitter.

Majority staff members present: Madelyn R. Creedon, counsel; and Roy F. Phillips, professional staff member.

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

Staff assistants present: Kevin A. Cronin and Paul J. Hubbard.

Committee members' assistants present: Carolyn A. Chuhta, assistant to Senator Reed; Ann Premer, assistant to Senator Ben Nelson; and Jonathan Epstein, assistant to Senator Bingaman; Rob Soofer, assistant to Senator Inhofe; and Lenwood Landrum and Sandra Luff, assistants to Senator Sessions.

**OPENING STATEMENT OF SENATOR E. BENJAMIN NELSON,
CHAIRMAN**

Senator BEN NELSON. The hearing will come to order.

Good afternoon and welcome. Our witness this afternoon, flying solo, is Tom D'Agostino, the Administrator of the National Nuclear Security Administration.

Today, the Strategic Forces Subcommittee will discuss the defense programs at the National Nuclear Security Administration, or the NNSA, which is responsible for maintaining the safety, security, and reliability of the Nation's stockpile of nuclear weapons. The NNSA and the Department of Defense work closely together to ensure that the delivery systems and the nuclear warheads present a reliable deterrent for the U.S. Previously, this committee heard testimony from the military services on the delivery systems that carry nuclear warheads and weapons. And today, the sub-

committee will focus on the NNSA activities to maintain those nuclear warheads and weapons without testing.

Maintaining nuclear warheads and weapons that are more than 20 years old without testing is a challenging task. Over the years, however, NNSA has made significant investments in people and experimental facilities, including the world's most advanced computational capability, to maintain and sustain the nuclear stockpile.

Today, I think many would be surprised to know that NNSA and its scientists would tell you that they know more about the technical physics of these weapons than their predecessors did during the heyday of underground nuclear testing.

The challenge, however, is to use, maintain, and to pass on to future generations the skills necessary to maintain the nuclear weapons into the future and for as long as they're needed. After years of surveillance work, NNSA has discovered and repaired previously unknown manufacturing defects, and is now focused on issues that will continue to occur with aging warheads.

For the most part, the signs of aging are understood. High explosives crack, wires become brittle, rubber and plastics degrade, metals corrode, and obsolete parts must be replaced with newer parts. Since 1992 and the development of the Stockpile Stewardship Program, the NNSA has discovered and repaired problems that previously would have required a nuclear test to resolve. This expanded knowledge of the stockpile has allowed the NNSA to discover problems and develop and implement and verify a fix, all without testing.

All of the experimental facilities planned in the early days of the Stockpile Stewardship Program are now in place. As a result, the attention is turned to the plants and facilities that do the work to maintain the stockpile. These facilities and plants are where the people who make the parts, and assemble and disassemble, work. NNSA and the Congress have an obligation to make certain that these people have a safe working environment and the tools to efficiently carryout their mission.

New tritium facilities are in place at Savannah River, and new Uranium Storage Facility just opened at Oak Ridge. The Kansas City plant is on track to move to its new facility in the near future. But, there is more work to be done. The last major facilities that are needed are the Uranium Processing Facility at Oak Ridge, and the Chemical and Metallurgical Research Replacement Facility at Los Alamos National Laboratory.

With these multibillion-dollar facilities in place, and the new high-explosive facility at Pantex, the NNSA will be fully capable of maintaining the nuclear weapons for as long as they're needed. President Obama is committed to making sure, while reducing the number of nuclear weapons, there is a long-term effort to build new facilities and continue the Stockpile Stewardship Program so that the deterrent remains safe, secure, and effective.

Next week, the full committee will hold a hearing on the new Nuclear Posture Review. And, Mr. D'Agostino, you will be a witness, as we just discussed, at that hearing. But, today we'll focus on the work and the budget of the NNSA as it fulfills its ongoing mission and the new missions outlined for it in the NPR.

Your prepared statement, sir, will be included in the record.

Senator Vitter, the ranking member, would you have some opening remarks you'd like to make?

STATEMENT OF SENATOR DAVID VITTER

Senator VITTER. Yes. Thank you, Mr. Chairman.
I'll submit my full opening statement for the record.
[The prepared statement of Senator Vitter follows:]
[SUBCOMMITTEE INSERT]

Senator VITTER. But, I just want to highlight four points.
First of all, welcome, Mr. Administrator. And thank you for your very important ongoing work.

This request clearly is just the first payment on what has to be a sustained period of investment. And I'm very glad that we're finally on this course of increased investment. I think the key is that we start it immediately, that we make sure we start with a significant enough investment, and, most importantly, that we make sure we stay the course, because 1 or 2 years of this investment clearly isn't going to get the job done.

This investment is important for the safety and security of nuclear weapons, what we have now. It's even more important if we want to reduce the numbers of our nuclear weapons, as is proposed in the new START Treaty. So, we absolutely have to have this sustained period of investment for that to be even under consideration. And I look forward to this starting.

Mr. Administrator, one of my questions—and I'd love for you to address it—will be, Is this START good enough? And specifically, as you know, the National lab directors had argued for much more, to begin with, about a billion dollars a year; and so, I'm very curious about what is lost between that billion and this 624 million, and how we'll deal with that over a full 10-year plan, or longer.

Mr. Chairman, I also want to use the opportunity to state that I think the new Nuclear Posture Review inappropriately limits the ability of our complex to ensure the highest level of safety, security, and reliability. And that will be a part of the ongoing discussion, as well. In constraining the ability to design new weapons and exercise our full new scientific capabilities, I think we're limiting safety. And I think that limits intellectual growth; limits new concepts, design work; and limits our ability, therefore, to achieve maximum safety.

Finally, I want to underscore that, clearly, the B61 Life Extension Program is among the most significant and time-critical funding elements of this fiscal year 2011 request. Technology maturation for many components should have begun, really, at least 2 years ago. And the longer we wait, the tougher that is, as a 2017 deadline continues to mount.

So, I look forward to hearing if any additional policy roadblocks remain to prevent that work from moving forward on that critical B61 Life Extension Program.

Thank you very much, Mr. Chairman.
Senator BEN NELSON. Thank you.

Do you have some opening remarks that you'd like to make, please?

STATEMENT OF HON. THOMAS P. D'AGOSTINO, ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION, DEPARTMENT OF ENERGY

Mr. D'AGOSTINO. Yes, Mr. Chairman. If I could, I'd also have a written statement to submit for the record.

Senator BEN NELSON. You may want to pull the microphone just a little bit closer. It should be on. There you go.

Mr. D'AGOSTINO. Yes, sir.

Thank you, Mr. Chairman and members of the subcommittee. I'm pleased to appear before you today to discuss the Department of Energy's fiscal year 2011 budget request for the National Nuclear Security Administration.

When I last appeared before the subcommittee, the focus of my testimony was the continued transformation of an outdated cold-war nuclear weapons complex, and moving it towards a 21st-century nuclear security enterprise, and our initial efforts in implementing the President's nuclear security agenda.

Since that time, we've defined a portfolio of programs to carry out the President's nuclear security agenda. Our fiscal year 2011 request for these programs is \$11.2 billion, an increase of over 13 percent from last year. In developing this portfolio, Secretary Chu and I worked very closely with Secretary Gates to ensure that we remain focused on meeting the Department of Defense requirements. This request fully supports, and is entirely consistent with, the new nuclear strategy outlined last week in the administration's Nuclear Posture Review, or NPR.

The NPR lays out the nuclear deterrent policies for the next decade. For the NNSA, the impacts are significant. The NPR documents the President's commitment to provide the NNSA the resources required to support his nuclear security agenda and maintain the safety, security, and effectiveness of the nuclear deterrent without underground testing.

I understand there'll be a separate full-committee hearing later this month to discuss the details of the NPR. And I look forward to that hearing next week.

To summarize, the NPR provides the direction for the NNSA to maintain the stockpile through enhanced surveillance with an appropriate life extension program for the weapons remaining in the stockpile. It renews our commitment in human capital, the critical cadre of scientific, technical, and engineering experts who underpin our stockpile management work; and our support for nuclear non-proliferation and counterterrorism missions; and recapitalize the aging infrastructure used to support the stockpile and conduct a full range of nuclear security missions. Our budget request for the NNSA supports this direction completely.

Within our overall request, weapons activities increases 10 percent—nearly 10 percent, to a level of \$7 billion; defense non-proliferation increases nearly 26 percent, to a level of 2.7 billion; and naval reactors increases more than 13 percent, to a level of 1.1 billion.

Our request can be summarized in four components that, collectively, ensure that we implement the President's direction:

First, our request describes the NNSA's crucial role in implementing the President's nuclear security agenda, including his call

to secure all vulnerable nuclear materials worldwide within 4 years. The \$2.7-billion request for nuclear nonproliferation programs includes several efforts that are directly linked to the President's agenda, including nearly 560 million for Global Threat Reduction Initiative to secure vulnerable materials; over a billion dollars for our Fissile Material Disposition Program to permanently eliminate 68 metric tons of surplus weapons-grade plutonium and more than 200 metric tons of surplus highly enriched uranium; and over \$350 million for nuclear nonproliferation verification research and development programs to provide technical support for arms control and nonproliferation.

The second component of our investment is in the tools and capabilities required to effectively manage our nuclear weapons stockpile. Because the NNSA, the Department of Defense, and the White House were all intimately involved in the formulation of the NPR from the start, much of the early analysis enabled NNSA to formulate a budget request that already responds to many of the recommendations in the recently released NPR. We concluded very early on that maintaining the safety, security, and effectiveness of the enduring deterrent would require increased investments to strengthen an aging physical infrastructure and to help sustain a depleting technical human capital base. Our request includes more than \$7 billion to ensure the capabilities required to complete ongoing life extension work; to strengthen the science, technology, engineering base; and to reinvest in the scientists, technicians, and engineers who carry out the entire NNSA mission.

These activities are consistent with the new stockpile management program responsibilities, outlined in the 2010 National Defense Authorization Act, and are consistent with the path forward, outlined in the NPR. As Vice President Biden highlighted in a recent speech, "we need to continue to invest in a modern, sustainable infrastructure that not just supports the full range of NNSA's mission"—"that supports the full range of NNSA's mission, not just stockpile stewardship." He stated, "This investment is not only consistent with our nonproliferation agenda, but essential to it." And there is a bipartisan consensus that now is the time to make these investments to provide the foundation for future U.S. security, as noted by Senator Sam Nunn, Secretaries George Shultz, Henry Kissinger, and William Perry last January.

This leads me to the third component, our investment in recapitalizing our infrastructure and deterrent capability into a 21st-century nuclear security enterprise. As the Vice President also said last month, "Some of the facilities we use to handle uranium and plutonium date back to the days when the world's great powers were led by Truman, Churchill, and Stalin. The signs of age and decay are becoming more apparent every day."

So, our request includes specific funds to continue the design of the uranium processing facility at our—at the Y-12 facility, and the construction of the Chemistry and Metallurgy Research Replacement Facility at Los Alamos. The naval reactors request includes funds to address the Ohio-class replacement, including a new reactor plant, and our need to refuel one of our land-based prototypes to provide a platform to demonstrate the manufacturability

of the Ohio replacement core, and to realistically test systems and components.

Mr. Chairman, investing now in a modern, sustainable nuclear security enterprise is the right thing to do. The investment will support the full range of nuclear security missions, including stockpile stewardship, nuclear nonproliferation, arms control, treaty verification, counterterrorism, nuclear forensics, and emergency management, along with naval nuclear propulsion.

Finally, the fourth component, and one that ties all our mission together, is our commitment to aggressive management reform across the NNSA. With increased resources provided by Congress comes increased responsibility on our part to be effective stewards of the taxpayer money and to ensure that the NNSA is an efficient and cost-effective enterprise. We take this responsibility very seriously. We initiated a zero-based security review to implement greater security efficiencies and drive down costs, while sustaining and even improving our security capabilities. Our supply-chain management center has already saved taxpayers more than \$130 million, largely through eSourcing and combining purchasing across our enterprise.

And last month I announced the new contracting and acquisition strategy that—including, among other items, an initiative to consolidate site operations at Y-12 National Security Complex and the Pantex Plant into a single contract, with the option for the phase-in of the Savannah River tritium operations. The proposed single-contract award will further strengthen our ability to achieve the ambitious goals set by the President in his budget request, and is consistent with my vision to move forward to a fully integrated and interdependent enterprise that will enhance mission performance, reduce cost, and strengthen private-sector partnerships. While many of the details still need to be worked out, we believe these efforts can save the taxpayers more than \$895 million over the next decade.

Finally, NNSA's leadership team stresses performance and financial accountability at all levels of our organization. 2009, our program met or exceeded 95 percent of the performance objectives. And we continue to reduce the percentage of carryover, uncosted, uncommitted balances in several of our nonproliferation programs.

Mr. Chairman, these investments made to date in the nuclear security enterprise provide the tools to address a broad array of nuclear security challenges. However, we must continue to cultivate the talents of our people to use these tools effectively, because our dedicated workforce is ultimately, in the end, the key to our success.

Thank you, Mr. Chairman. And I'll look forward to your questions.

[The prepared statement of Mr. D'Agostino follows:]

Senator BEN NELSON. Thank you.

Senator Bingaman, do you have some opening remarks you might want to make?

Senator BINGAMAN. I'll just wait for questions, Mr. Chairman. Thank you, though.

Senator BEN NELSON. Thank you.

You mentioned the Nuclear Posture Review, and it supports the decision, in the new START Treaty, to reduce the nuclear weapons stockpile to 1500 deployed nuclear weapons. It's a reduction from the maximum of 2200 deployed nuclear weapons allowed under the Moscow Treaty, but this number doesn't represent the size of the total stockpile, which is considerably larger than the number of deployed weapons. What is your understanding of the impact that the NPR and START will have on the total stockpile size?

Mr. D'AGOSTINO. The total stockpile size is a size that includes, as you described, sir, the operationally deployed warheads and a Reserves stockpile—classified number, at this point—to essentially backup the operationally deployed warheads. Because we do have to do maintenance, so it requires a bit of movement back and forth. Also, as part of that, because we hadn't been actively involved—and this is that phase we're entering into, is this active life extension program management—we hadn't been as actively involved in that. Now that we have a defined and clear path forward, the Defense Department will be looking at whether or not, and by how much, we ought to be looking at the Reserve stockpile and changing the size of that. Decisions on that point are not—have not yet been made, because as you—we note, the NPR was just released last week. And so, we want to roll those in as—phase those in as we move forward.

Senator BEN NELSON. Well, in that regard, will you be able to, as far as you know right now, retire and disassemble more nuclear warheads than previously scheduled? Or will it have any impact on that?

Mr. D'AGOSTINO. Right now we also have—in addition to the operationally deployed and Reserve stockpile, we—there are a set of warheads in a dismantlement queue, if I will. We provide—our last report that we provided, about 2 years ago to Congress, laid out an accelerated dismantlement path for those warheads, and that third queue to be taken apart. We're proceeding on marching down that plan that we had laid out 2 years ago. It's a fairly aggressive plan.

The question that has to come to play, that we will be looking at as we develop our fiscal year 2012 budgets in the out years, is, Does it make sense to take another bite and try to even go faster taking down that retired set of warheads, or are those resources better spent on taking care of the warheads that we have right now? And that's an ongoing discussion, right now, that I'm having with the Defense Department. We're looking at various options on that, but we remain committed to taking apart all those warheads in that retirement queue by the year 2022. Granted, that's 12 years from now, but we are talking about a number of warheads, and they are nuclear warheads, so we want to make sure that we don't rush. Safety's the most important thing, and that—from that—my standpoint.

Senator BEN NELSON. Now, there are different categories of non-deployed warheads. Some are active, Reserve, and some are inactive, while some are in line, waiting for dismantlement. Can you tell us the current categories, and—of these nondeployed warheads? And will the category or will the situation change under NPR?

Mr. D'AGOSTINO. I think NPR allows us to look at changing the situation. I don't have the details on how it would change it, at this point. There's an—it's important that there be—two things—couple of things happening at the same time. One is extending the lives and actively getting into finishing the W76 warhead and doing the design of the—design work and costing studies needed for the B61 warhead. That's incredibly important. And as we move forward in that, we'll be in the position to look at, Can we take apart—should we accelerate our retirement of the retired warheads and/or should we move those warheads that are in the active and inactive Reserve into the retirement category? Those are decisions made by the Defense Department, they're advised upon by my organization, particularly since we look very closely at which warhead systems are reaching their end of life, and in what manner, and what sequence we ought to be taking these apart.

Senator BEN NELSON. Now, in terms of the categories can you outline the nature of the—of each category?

Mr. D'AGOSTINO. Right now, we have operationally—the categories, right now, are operationally deployed strategic warheads; we have, as you noted, an active and inactive Reserve set of warheads to back up the operationally deployed warheads; and the third queue are the retired warheads, warheads that have already—that are being retired, but they're awaiting dismantlement, because there's a significant number of warheads there, and—but, we can't—we—you know, we have to balance our resources between taking care of the stockpile and retiring warheads.

Senator BEN NELSON. The—and, in that regard, even though you can't talk about the total number being classified of these non-deployed warheads, the—will we be able to handle the maintenance requirements of each of those warheads?

Mr. D'AGOSTINO. Yes. I think—very much so. What's—what the NPR allows us to do is, it provides certainty in the work plan. Where we are right now is translating the NPR—the broad NPR requirements into very specific 20-year plans. We call—we have a document called the Requirements Planning Document and the Program and Planning Document. These are the detailed documents that say what warhead gets worked on at what time sequence. So, the fact that we have this type of certainty, that we are going to work on the W76, finish the production of the W76; we are proposing to actively engage in the full B61 life extension program, including the nuclear life extension; and that we are going to start studying—this is more from a laboratory side—what we might and—what we—are the best approaches to dealing with the W78 warhead—that certainty allows us to allocate resources our at the Pantex plant and the Y-12 plant, which are the hands-on people on the warhead components, with some degree of certainty.

Senator BEN NELSON. In connection with the Pantex operation, the budgets for those operations is down from fiscal year 2010 levels, at a time when Pantex will be conducting full-rate production of the W76 life extension and will be increasing the dismantlement rate, even though you say that perhaps things will be delayed on some dismantlement. Why is the budget down? It looks to me like maybe the operation tempo is up, but the budget's down. It's not

that I want budgets up, but I want to make certain that they're—it's—they're correlated.

Mr. D'AGOSTINO. Right. Well, the budget we asked for, for the NNSA overhaul—overall, allows us to do the work at the Pantex plant. There's an element in the President's budget request where we take, early on, and we allocate resources to each of the sites. And because of final questions on how much goes through what particular site, there is an element of the program—of the President's request called the headquarters account. It's actually—essentially, it's the program—defense program's General Harencak, who's sitting behind me—as the requirements become better defined, we allocate those resources out to the sites.

Senator BEN NELSON. Oh.

Mr. D'AGOSTINO. Since we're in—we're talking about next year's budget, there are still resources to be allocated out to take care of any reductions or perceived reductions at the site. Because obviously we don't spend the money in headquarters so that money gets spent out at our laboratories and production plants.

And I wanted also to clarify my comment on the accelerated dismantlement rate. We submitted a plan to Congress, in a classified report, that we accelerated our dismantlement rates from 2006 levels that we were going on. So, now we are currently operating on the plan we submitted to you, sir, 2 years ago. We aren't going to accelerate on top of that plan, unless we have the freed-up resource at our plants—

Senator BEN NELSON. Yes.

Mr. D'AGOSTINO.—to do that.

Senator BEN NELSON. Well, the—perhaps the simple question for me to ask is, Do you—in terms of Pantex and the operations, are you satisfied that you have enough financial resources in the budget to be able to do what the plan is?

Mr. D'AGOSTINO. Yes, sir. I'm satisfied.

Senator BEN NELSON. Okay. Thank you.

Senator VITTER?

Senator VITTER. Thank you, Mr. Chairman.

Mr. Administrator, thanks again for your service.

As I noted briefly in my opening statement, the center directors seem to have suggested a level above what we're looking at for fiscal year 2011. We're looking at an increase of \$624 million. My understanding is, they suggested an increase of \$1 to \$1.2 billion. What's the difference? What are we not doing in this request? How do you anticipate meeting those needs in the future?

Mr. D'AGOSTINO. When we work the internal budget process last year, I asked for input, broadly. Program—Defense Programs runs that input process. Early on, last year, there were—with—in a—about this time last year, we received, “Yes, in order to do, broadly, the kind of work we think that might happen”—this is before, by the way, we knew what the requirements actually were—“we think, on the order of about a billion-plus is needed.” This comes—broadly—this is, again, just as a reminder, without any real requirements. As the year progressed last year, and the NPR was moving through its paces, appropriate—the requirements became clearer. And I—my—me and my staff were very aware of what—the requirements were happening, but because the NPR is drafted

within the Federal Government, doesn't involve a broad range of people outside of our laboratories, our labs and plants don't become aware of all of those requirements. So, I can take their input and work it down.

Additionally, early on what we had were what I would call power-point level of quality, with respect to budget input. But, what we have, as the year progressed last year, a greater level of clarity on what it actually takes to do maintenance, build buildings, do work on the stockpile and as the stockpile requirements came through. So, I took a look at that request that was—and again, against the power-point-quality level of request, and applied their actual requirements to that. And that brought that number down into the—our internal budget process. And the resources we have, and the increases we have in the President's budget, are exactly what I feel is needed in order to satisfy the requirements.

I've talked to our folks at the labs and plants. They understand that. And they agree with me, that what we have right now is what we need. Will folks always want more money? I think, early on, you always—you—it's hard to find a program manager that doesn't want increased resources.

A final and very important filter, frankly, from my standpoint, is our ability to appropriately execute the resources to get the job done. And the layout that we have before us here, is what I feel is a significant increase, and it's what is required to get the job done.

Senator VITTER. Okay. Certainly, Mr. Administrator, I assume you agree that this project has to be sustained over many years. We have asked for, in the authorization language, a 10-year plan about this. When would you expect that we'll get that plan, in significant detail?

Mr. D'AGOSTINO. This is the Stockpile Stewardship and Management Program Plan?

Senator VITTER. Right.

Mr. D'AGOSTINO. We are working on that plan. It's a 10—it's going to be a 10-year plan. It will indicate, to the best of our ability, to itemize, kind of, the 10-year program stream that we will need. We expect to get that plan to the Hill in early May, if not by the 1st of May, is what my target is. My internal target is to get that up to—by the first, but it's certainly within the next few weeks, sir.

Senator VITTER. Okay. I know it's not finalized yet, but can you describe, roughly, what you think the funding line over time of that plan will look like? Obviously, we have a significant increase proposed here. And over—

Mr. D'AGOSTINO. Yes, sir.

Senator VITTER.—those next 10 years, what would you expect that proposal to look like, in terms of dollars?

Mr. D'AGOSTINO. As you said, sir, the plan's not final, and I actually haven't seen the tables. But, I will point out that the program we have in front of the committee today takes the—just the weapons activities account—I'm setting aside nuclear nonproliferation, for the time being—but, just the weapons activities grows, as you pointed out—it starts at \$7 billion in fiscal year 2011, and it grows to \$7.6 billion in fiscal year 2015. And so, from that standpoint

alone, I expect—because the out years will be deep into the actual construction of these large facilities at Los Alamos and Y-12, and we'll be into the work on the actual stockpile, the B61 warhead—will be in the production of that—that the increase will continue on into the out years, years 6 through 10.

But, I want to caveat that—I haven't seen the budget tables yet. It's my best expectation, at this point, that we'll see that increase continue. But, we will also, in parallel, continue to drive down and look at cost efficiencies, as I described in my oral opening remarks.

Senator VITTER. Okay. In my statement, I highlighted the B61 life extension. I know the fiscal year 2010 approps bill did not fully fund your request for that. In unclassified terms, could you please share why that project is urgently needed, and the complexities associated with the plan, and why future delays imposed by Congress would be particularly detrimental?

Mr. D'AGOSTINO. Certainly. The B61 warhead is our—one of our oldest warheads in the stockpile, from a design standpoint and actual warheads in the stockpile. As General Chilton has pointed out in the past, as I've pointed out in the past, we have components in that warhead that have vacuum tubes. These are—you can't—be pretty hard to make one of those, these days. If—it could be hard to find somebody that can—that actually has them. We can't continue to operate in this manner, where we're replacing things with vacuum tubes.

Neutron generators and power supplies and the radar, essentially, are components that have to be addressed in this warhead.

Also, I think, importantly, this warhead—the work on this warhead will provide our first real opportunity to actually increase the safety and security of that warhead, put 21st-century safety and security into that warhead. So, when we work on warheads from now on, I'd like to be in the position of saying, "We made it safer. We made it more secure. We increased the reliability to ensure that we would stay very far away from ever having to conduct an underground test."

Senator VITTER. Okay. Once we are beyond the B61 scope of work, do you anticipate a significant sort of recalculation of necessary fiscal year 2012-and-beyond funding?

Mr. D'AGOSTINO. I think it's important to note that the work that we are proposing in the fiscal year 2011 request—whether we're talking about our major capital projects, the uranium and plutonium facilities that we're proposing, or whether we're talking actually about work on the stockpile itself—a good part of this work is work in the design phase or in the, what we call, defining the cost, scope, and schedule, because these are defined activities; they have a beginning, a middle, and an end. For these types of projects, we establish—we will be establishing performance baselines. In other words, the government's commitment, or the executive branch's commitment, to saying, "I'm going to deliver such-and-such, by a certain date, for a certain dollar amount, on a certain dollar stream." We expect for our two large facilities and the B61 warhead to be in that performance baseline decision point in the fiscal year 2012 and fiscal year 2013 years. And at that point, those are the numbers that I want to lock in and commit to from an out—

from a multiple-year standpoint, and will lock in a commit to, to getting the job done for those projects.

So, we have to expect increases and decreases and adjustments in our program as we have a better understanding of the—what it takes to do a design.

If I could just—ask—add a little bit more to that. We know that there's been some important changes in the Department lately, with Secretary Chu and with Deputy Secretary Poneman on approaches to large projects. And, in particular, one I want to point out for large capital projects is making sure that we know what we're going to build before we start building it. It's this idea of finishing the—getting very close to finishing the design work before committing to a performance baseline. And on these large facilities, particularly the capital projects, our goal is to get to 90 percent of design prior to construction, pouring concrete in the ground, and then finding out—you know. Because that way we're assured, we have a much greater confidence that we know what a project costs and how long it will take.

Senator VITTER. Okay.

Thank you, Mr. Chairman.

Senator BEN NELSON. Senator Bingaman?

Senator BINGAMAN. Thank you very much.

Tom, thank you for your service.

Let me start by just asking—you testified to this subcommittee, last year, that LANSC, the Los Alamos Neutron Science Center, was an important tool to help maintain the stockpile. I wanted to be sure that's still your view.

Mr. D'AGOSTINO. It's absolutely my view that the LANSC provides the important experimental data that we need to help validate our codes, as well as help our scientists. I mean, it helps us in the basic science area as it well helps us in the energy area as we look at nuclear energy and being able to have materials that can handle neutron flux environments well—and handle them well.

Senator BINGAMAN. Thank you. Let me ask about this CMR replacement project—or facility. The budget you've given us doesn't have in it any cost estimates. I guess your statement, just a few minutes ago, related to this. When would we expect to have firm cost estimates and completion dates for that project?

Mr. D'AGOSTINO. We expect—I expect, in calendar year 2012—2012 timeframe, whether it bridges into fiscal year 2012 or 2013—I'd have to double check exactly. It's going to take us a good year and a half more of design work to be confident. I think the most important thing is our—my desire, the Secretary's desire, is to work—get the Department's reputation back on track, with respect to large facilities. We do have programs in the Department that do well in this, and what we've learned is that getting the design work largely completed, or getting it to around the 80- to 90-percent level is what it takes in order to do that. So, we're going to—we're going to work on that approach here for these two facilities. My expectation is about the 2012 timeframe to get that done. If it takes longer though, sir, I'm willing to push back the performance baseline by a year in order to make sure I know what we're asking for. I think, in the long run, that will be the right thing to do.

Senator BINGAMAN. Has the decision been made as to whether that replacement facility, that CMR replacement facility will manufacture plutonium pits?

Mr. D'AGOSTINO. The—I don't think there's any decision needed, sir. I would—here's how I would describe that. The plutonium pits are manufactured in a building called PF4. It's a building at Los Alamos that was brought up in the 1980s. It's 20, 25 years old. We're in the midst of upgrading that facility, you know, working on the ventilation systems and the power systems and the like. The CMR replacement facility will do two things—will do a couple of things for us. It will do the materials characterization work that we need to characterize plutonium material for nuclear forensics work and for the stockpile. It will do the analytical chemistry that's needed to do the surveillance work on the stockpile, which means if we take a stockpile pit, we take a little sample of that, and we send it over to the CMR facility so that analysis can be done, so we can understand the aging of that warhead. And finally, there will be a component of this facility that will be—include storage. Because the—one of the things that we found that we're having problems with is making sure that we have the adequate and appropriate storage for all our—all of our material. So, it will provide those three functions. We will not make pits in the CMR replacement facility. We'll make them in the existing older facility.

Senator BINGAMAN. That existing older facility, as I understand it, the Defense Nuclear Facility Safety Board has criticized that facility for its safety envelope under a worst-case accident scenario. Does NNSA have a campaign to reduce or remove plutonium from that facility—

Mr. D'AGOSTINO. Yes, sir, we do.

Senator BINGAMAN.—to do deal with that?

Mr. D'AGOSTINO. Senator, we absolutely have a campaign to do that. We have a campaign to do a couple of things. One, the analysis—the concern of the Board is a concern of mine in—early on, which was—the analysis was an unbounded analysis. That said, if the facility was completely full of plutonium, and all the worst things happened, then we would have a release. What we have done since then is taken a look at actually how much material is actually in the building, versus, kind of, the building filled up to the rafters with plutonium. And what that did is, that reduced the risk to the public by a factor of 15, so a significant reduction. We're still not satisfied with that reduction.

So, what we're doing, even though the risk has been reduced by a factor of 15, is packaging and taking material out, and we've incentivized the laboratory to accelerate its packaging. Item two is, we've reduced the amount of—what we call fire loading, material in the building that could catch fire, because the accident was a fire accident. The building breaks open, there's a fire, and then the wind carries everything out. So, if we reduce the amount of fire-loaded material and add fire upgrades, that also causes the risk to the public to go down.

So, we're taking—moving material out; we've reduced the fire loading; and we're also putting in some—not ventilation adjustments, but, in essence, doors that will close automatically, to re-

duce the risk even further. I'm confident that the right steps are being taken.

Senator BINGAMAN. Let me ask about the scientific and engineering complex that has been considered there at Los Alamos. I believe your budget proposes to cancel that. This was intended to house many of the scientists there at the lab in a single facility. What is the plan for a facility of this sort? Is there one—an alternative course that you plan to follow?

Mr. D'AGOSTINO. Yes. Yes, sir. What we—we didn't—I would characterize it slightly differently, if I could, sir. And that is, we canceled the approach that the lab was proposing to the Federal Government, which was a third-party-financed approach which we felt did not meet the requirements. And not a—first of all, did not meet the requirements that we had laid out, with the administration, did not meet OMB requirements for third-party financing. So, we're working with the laboratory, right now, on a different approach. How would we—because we do need, frankly, a place to put our scientists at the laboratory. We don't have an—we don't have the solution yet. The Defense Programs organization hasn't closed on that particular approach yet. So, I don't have anything I can say right now to you, sir. But, I'll be glad, once we close on that approach, to communicate back to you, once we close on what that may be.

Senator BINGAMAN. Thank you very much.

Mr. Chairman, I may have some questions to submit in writing, but thank you very much.

Senator BEN NELSON. It will be received.

Senator SESSIONS?

Senator SESSIONS. Thank you.

Mr. D'Agostino, we appreciate your being with us today.

One of the things that is really crucial to the START ratification process is the commitment, that we believe is there, to modernize the nuclear weapons program. It's part of the—our 2010 defense bill, and it says, "Must have a plan to modernize U.S. nuclear deterrent and estimated budget requirements over 10 years."

I was just going to tell you there are a lot of concerns about this treaty. I don't think it's—I think it's more—I don't think it's critical to our National defense, and I'm—will try to be cooperative in—so people can celebrate all these meetings and signing all these documents. It makes them feel good. But, we need to know whether or not you've got the money and the plan in place to modernize the arsenal. And if it's—that's not there, I think Senator Lieberman was quoted as saying that he didn't think the treaty could be ratified. So, I guess I see there are \$5 billion for the first 5 years, but what kind of plan is there for the second? And are we backloading the funding here to sometime when some new administration would have to come up with the money, not the one that's signing this treaty? To put it all bluntly.

[Laughter.]

Mr. D'AGOSTINO. Senator, the fiscal year 2011 budget is not just a budget for 1 year. The program that we've submitted—obviously, we have a 5-year lookahead within here; the program does go up significant from fiscal year 2011 through fiscal year 2015. We do owe you a 10-year plan to describe what years 6, 7, 8, 9, and 10

look like, as well. Our commitment is to get that plan to you. I'm very interested—I—you—we all—we believe—I believe that it—what's not needed is a 1-year step-up, which, frankly, we do have a significant increase from years fiscal year 2010 to fiscal year 2011, but it has to be a long-term commitment that crosses administrations and crosses Congresses—

Senator SESSIONS. Well, I—

Mr. D'AGOSTINO.—and the like.

Senator SESSIONS.—I tend to—

Mr. D'AGOSTINO. So, that's our approach, sir.

Senator SESSIONS.—understand that. And I—but, you testified last summer that, "We anticipate that identified funding levels for the out years may not be sufficient to meet the post-NPR stockpile requirements, including science-based stewardship, recapitalization of the aging plutonium and highly enriched uranium facilities." You still stand by that?

Mr. D'AGOSTINO. No, I stand by the President's budget. Last summer, I didn't have—didn't know where we were going to end up with the year. What we have here is a plan that does what the NPR asked for. The NPR lays out broad requirements, we've submitted a program and budget that has a very significant set of well-understood work for the next decade in—on working on the nuclear weapons themselves. So, I'm—

Senator SESSIONS. Well—

Mr. D'AGOSTINO.—I—

Senator SESSIONS. But, you don't have—you haven't identified, yet, the funding for the out years, that's correct. Yes or no?

Mr. D'AGOSTINO. I've—yes. I've identified funding for the next 5 years, but I haven't—

Senator SESSIONS. The next 5 years. Excuse me.

Mr. D'AGOSTINO. For the years 6 through 10, I have that plan in place. I haven't gotten it out in—

Senator SESSIONS. Will it call—

Mr. D'AGOSTINO.—public yet.

Senator SESSIONS.—for more spending in years—per year, in years 6 through 10 than 1 through 5?

Mr. D'AGOSTINO. My expectation is that those will be years—I haven't seen the details of the plan yet—the tables. We don't have approval on the tables. My expectation is that, because we will be entering into the construction phase of some of these facilities, that the \$7.6 billion that we have in year 5 will continue, appropriately, to increase to reflect that.

But, what I want to make sure that—

Senator SESSIONS. Why'd you—well, I don't understand what—

Mr. D'AGOSTINO. Well—

Senator SESSIONS. Where does 7.6 billion come from?

Mr. D'AGOSTINO. That's the amount of money in our weapons activities account in fiscal year 2015. Right now, our weapons account has \$7 billion in fiscal year 2011, that \$7 billion increases to 7.6 over a 5-year period. And an—

Senator SESSIONS. But, you've got a new responsibility, a big new responsibility. I thought you were getting a billion dollars a year from the SECDEF to do the new START plan to modernize?

Mr. D'AGOSTINO. I'm getting—I gave you the total number, sir, which is an element of that, is the resources provided by the Defense Department.

Senator SESSIONS. And you're cutting other expenditures within the account?

Mr. D'AGOSTINO. I'm trying to drive efficiencies, because this is not just a matter of—

Senator SESSIONS. Well, I—

Mr. D'AGOSTINO.—getting more money, it's making sure the resources we have in our base account are spent well.

Senator SESSIONS. I couldn't agree more about—then, about that. But, this 5 billion for this project in the first 5 years, as I understand it, is that about 1 billion a year you plan to apply? Or does it ramp up over the 5 years?

Mr. D'AGOSTINO. Since, I haven't seen my years 6, 7, 8, 9, and 10, I can't give you a solid answer to that. But when—very shortly, you'll be getting the 10-year plan and you'll—we will have that level of detail for you.

Senator SESSIONS. Well, I just want to say, I learned something here, when I first came to the Senate, that—Senate Nelson wouldn't—but, was—then President Clinton had a lot of increases in the defense budget in the out years, and I realized he's going to be out of office, but he wasn't spending his money this year to get it started. So, I just—I'm trying to make the point that this is not going to be a pleasant process if you don't have us really good numbers that we can believe in, and with credibility, and a real commitment is there to improve our stockpile.

With regard to the W78 and W88, it seems that this—the NPR seems to raise the bar to make it more difficult to recommend improvements or replacement options. Why would we constrict ourselves in the options that we would have to make the arsenal safer and more reliable?

Mr. D'AGOSTINO. Senator, I don't believe we are constricting ourselves. The lab directors have—my lab—the lab directors, after taking a look at the NPR, feel that the NPR provides them the flexibility they need in order to maintain the stockpile, including the W78 and the W88.

Senator SESSIONS. Well, they work for you guys, and they pretty much follow orders. But, I'm going to ask you again, you believe that—does the restrictions that are included in any way weaken the options that might be available in the future as we work to replace and modernize these weapons systems?

Mr. D'AGOSTINO. I believe the NPR does not provide any restrictions to modernize. So, there's no impact, there's flexibility for the lab directors to study all types of approaches to do life extensions on the warheads.

Senator SESSIONS. Well—

Mr. D'AGOSTINO. The NPR is—

Senator SESSIONS. Okay.

Mr. D'AGOSTINO.—real clear on that, sir.

Senator SESSIONS. All right. We'll review that.

Mr. D'AGOSTINO. Yes, sir.

Senator SESSIONS. I would just note, if you want to save some money, you've got \$6 billion in cleanup money, is that correct, in your budget?

Mr. D'AGOSTINO. In the Department of Energy budget, yes, sir.

Senator SESSIONS. And another 6 billion of stimulus money for cleanups, that's 12 billion. That right?

Mr. D'AGOSTINO. That would—

Senator SESSIONS. Counting the money that was in the stimulus bill?

Mr. D'AGOSTINO. I'm more confident on the environment management work money. I don't keep track of—

Senator SESSIONS. Well, if—

Mr. D'AGOSTINO.—the stimulus money.

Senator SESSIONS.—you want to look for a place to save money, I suggest that \$12 billion would be a good place to start and that you have plenty of money to modernize our nuclear arsenal. Otherwise, we may not have a treaty to sign.

Thank you, Mr. Chairman.

Senator BEN NELSON. Senator Reed.

Senator REED. Thank you very much.

Thank you, Mr. Director.

And just in a general question—we have a challenge of modernizing our nuclear stockpile in our—both deployed and stockpile weapons, et cetera. Is there any significant difference, in terms of the status of ground-based, air-launched, or sea-launched systems, in terms of their modernization or their status?

Mr. D'AGOSTINO. Well, this would probably—I can answer part of that.

Senator REED. Yes.

Mr. D'AGOSTINO. It's probably better addressed to the Department of Defense.

Senator REED. Right.

Mr. D'AGOSTINO. General Chilton will—and Mr. Miller—will be here, I think, next week.

Senator REED. Yes, sir.

Mr. D'AGOSTINO. So, I'll—but, my sense is, what we—from the sea-launch standpoint, for example, I—because I'm a former submarine officer, I keep track of the trends—

Senator REED. I know there was something I liked about you.

[Laughter.]

Mr. D'AGOSTINO. Yes, but the—we do have work that we have in our program request to do the design work on the follow-on—

Senator REED. Right.

Mr. D'AGOSTINO.—Ohio-class submarine core. And an element of that, obviously, is the replacement of the Ohio-class submarine. The—there is significant work and discussions underway within Strategic Systems Program organization on how we best move forward on that Trident replacement submarine. We—there's a general understanding that this is the most survivable leg of our deterrent, and there's a commitment to work with the Navy on getting this piece done. And our—my element of the budget, as I described earlier, there is a—over a \$100-million increase in the naval propulsion program just to do that work on the Ohio-class submarine

replacement, as well as refuel the reactor core on the prototype facility.

So, from a submarine standpoint, I'm confident. But, I'll have to leave it to my colleagues in the Defense Department to deal with the rest—the other part of your question, sir.

Senator REED. Very good. So that—you're already beginning to undertake the work for the design of the new reactor system for the follow-on to Ohio.

Mr. D'AGOSTINO. Absolutely, sir. And this budget gets this going in high gear.

Senator REED. One of the other aspects with—of the naval system is that the—their spent fuel is currently stored in the water basin up at naval reactors facilities in Idaho Falls, and the facility is 50 years old. And it's been described to me as a design that is not the most modern.

Mr. D'AGOSTINO. Right.

Senator REED. It's essentially—I don't want to denigrate it, but it's a swimming pool with—am I getting too far off the point here?

Mr. D'AGOSTINO. Pretty—getting pretty close, sir.

Senator REED. Swimming pool with—and material in it.

Mr. D'AGOSTINO. Right.

Senator REED. So, what are we going to do to recapitalize that, in terms of the disposition of the—

Mr. D'AGOSTINO. Sure.

Senator REED.—fuel?

Mr. D'AGOSTINO. The facility you're referring to is the Expended Core Facility, or ECF for short. This is a facility that's done great work for the Nation. It's a facility that is in need of upgrading. We—just like our plutonium and uranium facilities, which were there in the '50s, and were designed to 1950s standards and the like, we have to—and we—as we take a look at the work that we anticipate out into the future, with cores coming out, we know this facility is not going to be able to cut it. And so, we have \$40 million requested in the fiscal year 2011 budget on the Expended Core Facility. And we're going to be working with the Office of Management and Budget. And once we establish the performance baseline again—is to make sure that those out-year funds are there to support this activity.

Senator REED. You might have covered this already. But, what opportunity did you have to participate and observe this week's summit meetings? Was it—

Mr. D'AGOSTINO. I was intimately involved with it. Because it was a nuclear security summit, the—our folks in the NNSA were actively involved in the workups to this.

Senator REED. Yes.

Mr. D'AGOSTINO. It's taken almost a year, frankly, worth of effort in getting—securing commitments from other nations to protect their material, to repatriate highly enriched uranium or plutonium that either United States or Russia had abroad; to convert research reactor cores. Obviously, it culminated on, actually starting on Sunday, with a set of bilateral meetings on Sunday and Monday, with our counterparts from other nations, and then the summit yesterday, where we actually secured commitments and received agree-

ment on a integrated work plan. So, my organization was actively involved. I was there for the last 3 days.

We're quite excited about this many countries interested in taking—dealing with this global problem, and addressing it in a very systematic—and being an engineer, I like to see things follow a certain work plan, with requirements and pointing out—and that's our goal, is to have a agreed work plan and meet regularly and report—more importantly, report back up to our presidents regularly on how we're doing. And 2 years from now, we'll have a—kind of, a—another opportunity to tell the world, “Did we say—did we do what we said we were going to do?” I think that's very important, that followup.

Senator REED. And this integrated work plan encompasses all of the Nations that participated?

Mr. D'AGOSTINO. All of the Nations, and possibly more. It depends—for—you know; some nations have a lot less to do than others. You know, obviously the United States and Russia have a fair burden and obligation—moral obligation as well as programmatic obligation to do this work. But, what we've—you've probably heard the announcements about the Ukraine agreeing to give up the material they have and allowing us to bring that back to Russia; agreements with Canada, as well, on bringing back U.S. material. We have secured agreements from various nations to allow us to put security upgrades in their facilities, put radiation detectors in their seaports, and have them take over that responsibility, and agree to sustain that. So, it was, frankly, remarkable.

The last piece of it, which is something that many on the committee know about, is an agreement by Russia and the United States to sign the Plutonium Management Disposition Agreement. This, unfortunately, had been in negotiation, I'm afraid to say, for 10 years. We finally got it signed, and it's an important part—that way, what we'll do is get the IAEA to verify that both nations, the United States and Russia, will be eliminating 68 metric tons of plutonium, plus a couple of hundred metric tons of uranium—highly enriched uranium to go with that. So, it's quite a set of days. We're pretty—quite happy with that.

Senator REED. Well, thank you very much.

Mr. D'AGOSTINO. Thanks.

Senator REED. And thanks—

Mr. D'AGOSTINO. Thank you—

Senator REED.—for your testimony.

Mr. D'AGOSTINO.—sir.

Senator REED. Thank you, Mr. Chairman.

Senator BEN NELSON. Thank you.

You heard my colleagues from the other side raising questions about adequate financing and funding for the job that is going to be required as part of the START Treaty. Based on what you now know, certainly with the current budget, years 1 through 5, do you believe that there's adequate funding for the United States to fulfill our obligations under the Treaty as it relates to the nuclear arsenal?

Mr. D'AGOSTINO. Yes, Mr. Chairman, I do believe that.

Senator BEN NELSON. And is it your opinion on years 6 through 10, based on what you know at the present time and what you will

be submitting as part of the 10-year plan, that there will be plans for adequate funding in those out years, as well?

Mr. D'AGOSTINO. Yes, Mr. Chairman. That's—our goal is to put together that 10-year plan to describe the work, as we understand it today—obviously, I—

Senator BEN NELSON. Yes.

Mr. D'AGOSTINO.—and in recognizing that, as our project baselines are established, that—it is my goal that those project baselines—as this plan is dynamic, changes from year to year—those project plan numbers get inserted into this plan.

Senator BEN NELSON. And there is no effort, as far as you're concerned, that it's—that the front-end funding is light, inadequate, or is a smaller number than it should be, in anticipation that the out years would be funded at a higher level. In other words, so that the funding is—should be adequate for each and every one of those years, based on the budgeting process that we have as part of Congress.

Mr. D'AGOSTINO. That's right, sir. You know, we put forward a program that meets the requirements and is executable. It doesn't make sense for the executive branch to put together a political budget, because, in the end, what we're trying to do is get the job done, and get it done in a way that best uses the taxpayer dollars and meets—and again, as I said, meets the requirements. And that's what we have in our budget submission, sir.

Senator BEN NELSON. And you don't believe that partisanship or any kind of political—otherwise political pressure is being placed on this budgeting process, as far as you're concerned.

Mr. D'AGOSTINO. Not as far as I'm concerned. I was intimately involved in putting this budget together, received great support in doing so, in understanding that we needed to recapitalize our infrastructure, we needed to increase our resources in the science area, and that we needed to work on the stockpile. And, sir, that's what we have before us.

Senator BEN NELSON. Okay, thank you. In connection with some facilities modernization efforts, there've always been people saying that the current facilities, in many instances, are in shambles; that they're not current, they're not up-to-date, they're not state-of-the-art, but they're—and that does not seem to be borne out by the facts, because you have, over the last several years, increased the level of facilities management during these recent years. Maybe you can tell us a little bit about some of the things that you've done so far on some of the facilities, recognizing that I think there are two major facilities that are going to have to have more than some work done on them.

Mr. D'AGOSTINO. Right. Certainly. Absolutely, sir. We did—we've done a significant amount, as you pointed out. I'll give you some quick examples.

Senator BEN NELSON. Sure.

Mr. D'AGOSTINO. At Sandia, for example, we've done work on a facility called the Microsystems Engineering Science Application, or MESA, facility. This is a facility that was critically important. It added on to an older facility, called the Microelectronics Development Laboratory. But, this facility, we knew we needed it, because, as components were getting smaller, we knew that we could pack

more capability into a smaller size. And when we're talking about nuclear warhead designs, size and weight are huge factors in the equation. So, that facility was up and running, supported by and authorized by Congress in—within the last 10 years.

Additionally, within the last 10 years, we built a facility called the Tritium Extraction Facility. This facility was vitally important to reestablishing the Nation's capability to extract—to produce and extract tritium for use in the deterrent, also vitally important, something that could get done.

The difficulty—where we are right now is, we've saved the hardest for last, if I could put it one way.

Senator BEN NELSON. Sure.

Mr. D'AGOSTINO. The hard work is the uranium and plutonium work. These are facilities—these are, kind of, the last two big ones that have to get done. They are multibillion-dollar facilities. I won't kid you, sir, these are expensive. But, at the same time, we were trying to get as much out of what we had. Now we're at the point where we have to recapitalize those. But, just as with any large operation, typically 3 to 5 percent—or—it's a small percentage number, but, on an ongoing basis, any organization needs a recapitalization budget to replace buildings as they get old. And we expect that to continue on, kind of at the couple-of-hundred-million-dollar-per-year level.

Finally, one last point, if I could. Up at Los Alamos, which had a very old administration building, it was the center building. It was the—kind of, the original—one of the original—very first structures that went up after—in the early days of the cold war. That facility was torn down and replaced with a new modern structure at Los Alamos.

So, we are turning the enterprise around. But, we are not left with our big jobs, really big jobs, and that's what we have to get done over the next 10 years.

Senator BEN NELSON. And in the—connection with the two new facilities, what portion of the design would be complete before construction starts?

Mr. D'AGOSTINO. My goal is to get design as close to 90 percent as possible before construction starts. The reason why I can't give you an exact number now is, it's hard for me to look out in the future and find out, "Should I wait another year and spend another X-million dollars to get that last 5 percent? Or do I have enough now to go on? Does that last 5 percent really matter with respect to performing a baseline?" But, our goal is to get, kind of, into this 80- to 95-percent range on design complete before we start asking for increased resources from you, sir, and other committees, on the actual construction itself.

Senator BEN NELSON. Are you planning to get any kind of an independent cost estimate of these facilities before you start making budget requests for significant amounts of money?

Mr. D'AGOSTINO. Absolutely. One of the—in addition to this—the Department recently—I would say—recently, within the last 2 months, or maybe a month and a half, put out a new policy on project management. And the new policy had a couple of key elements to it. One, I've just alluded to, which is this idea of doing as much design work before you commit to the construction. The

second one is independent cost estimates at each of the critical decision points. In the past, we would only do this independent cost estimate at one of the major critical decision points. We're going to do them at each of the four critical decision points.

Third element is making sure that we have qualified project managers, and the right number of them on each of the projects. And so, there's an algorithm that's been developed, and an approach and a desire to make sure we have enough project managers on the project.

There are a couple of others, but for the sake of brevity, I would—I—we could submit those details for the record, if you'd like. Or I—

Senator BEN NELSON. Yes, I—

Mr. D'AGOSTINO.—could provide a copy of that.

Senator Ben Nelson:—I think that would be helpful.

Mr. D'AGOSTINO. Yes, sir.

[The information referred to follows:]

Senator BEN NELSON. Because one of the concerns is—about the treaty, will be, Are we going to be in a position to be able to do everything we need to do, as well as everything else that's required—

Mr. D'AGOSTINO. Right.

Senator Ben Nelson:—as part of the overall operations of the facilities?

Mr. D'AGOSTINO. Right.

Senator BEN NELSON. The—is there any concern on your part about your ability to build these two facilities simultaneously?

Mr. D'AGOSTINO. No. No, there's no—they're in different geographic—no. The answer is no. They're in two different geographic—

Senator BEN NELSON. Yes.

Mr. D'AGOSTINO.—locations. The key will be sticking to our principles, our project management principles; making sure we spend more time up front on the design; working with the Defense Nuclear Facility Safety Board; ensuring that we have the safety built into these designs; and the thinking is done up front, instead of trying to backfit features in after the design is starting to lock itself down. So, I think we have a—the Board and the NNSA go back and forth on these things, and appropriately so. But, the good news is, we're having fairly significant amount of dialogue on these facilities with the Defense Board. And I wouldn't have it any other way. I think it's very important to get that independent input.

Senator BEN NELSON. As you know, Congress has required your agency to have a net reduction in square feet at each site. Now, in tearing down some of the old excess facilities and to budget for the decommissioning and demolition for each old building that a new one would replace, have—are you in a position to where you think that you're going to have a net reduction in square footage, but at the same time be able to handle the ongoing operations? And apparently you've not funded the decommissioning and demolition processes in recent budgets.

So, two questions. One, are you going to have enough square feet—are you going to be able to get there with the reduction in

square feet, but still have enough to do what needs to be done? And how are you going to be able to fund the D&D costs?

Mr. D'AGOSTINO. Okay. Yes, we will be able to have square-foot reductions. Early on, when we looked about the shift from having—going from a old cold-war nuclear weapons complex to a 21st-century nuclear security—or national security enterprise, we felt that we could take 9 million square feet out of the enterprise. So, that number probably doesn't mean anything, except if I put it into context. We had 36—we have 36 million square feet of space, and we believe we can take 9 million square feet down as we consolidate our functions, which we want to do with this plutonium and uranium, as we get into smaller more modern facilities. We believe we can take it down to this 9 million square feet.

Another element, as you described, is—what's—that's not a matter of taking square—you know, saying you've moved out of the old buildings, or the old buildings have to come down. We're working with Dr. Triay. At Y-12, for example, we've recently moved—we're doing a consolidation of highly enriched uranium, and we've completed the movement of all the highly enriched uranium that was spread out in that Y-12 valley into this new facility that we've just built, this highly enriched uranium materials facility. That will allow us, ultimately, to—essentially—we're not—sure how familiar you are with that site, but essentially take that 150 acres of highly secure space, shift the fence to—now we were only have 75 acres of space that we're protecting, and all that work that's outside now is available for the EM organization. Senator Sessions talked about this AARA money, that \$6 billion. That money will be used to take down those facilities.

Senator BEN NELSON. I see.

Mr. D'AGOSTINO. We do have—you know, we don't have all of the D& D—oops, excuse me—we don't have, at this point, every single square foot being taken down. We haven't—we don't have the details of that plan yet. But, for the most part, we're working the EM organization to help us out on that.

Senator BEN NELSON. As the new facilities are being built, is your budget adequate for facilities maintenance? In other words, so we don't end up with significant deferred maintenance that's not covered within a budget, but obviously it's a cost that will come due at some point in the future, and usually when there's no money available to take care of it. Are you planning for that, budgetwise, as well?

Mr. D'AGOSTINO. The facility—I'd—you know, in an ideal world, you'd—I'd—you'd always want to do more maintenance. What we're trying to do is balance the tradeoff between taking facilities down and stopping maintenance; anticipating which facilities, and stopping maintenance on those facilities, and reallocating the resources to the fewer sets of facilities that we have right now.

I have a separate office that looks into this. The numbers kind of vary from site to site. I'm comfortable with fiscal year 2011. This is a challenge that General Harencaak is working on at the Pantex plant, for example, right now. We're trying to solve a small facilities maintenance problem there. But, at the same time, we feel that overall in fiscal year 2011, we're okay. The out years, I don't—I'll have to get back to you with an answer on the out years.

Senator BEN NELSON. Okay. Thank you.

[The information referred to follows:]

Senator BEN NELSON. The NPR states that the U.S. will, quote, “study options for ensuring the safety, security, and reliability of nuclear warheads on a case-by- case basis.” Have you established criteria that will be used to evaluate each warhead, on a case-by- case basis, to ensure that safety, security, and reliability of those nuclear warheads?

Mr. D’AGOSTINO. Sir, the—we will—we’ll take each warhead, one at a time. The criteria we use as—is our surveillance data that we get out of taking the warheads apart and looking at them and finding out what components need to be replaced. And when there’s the right subset of work that has to be done, the decision gets made. And we can look—we have pretty good sense about how the next 10 years look in this area. So, the criteria, basically—it’s not like there are go/no-go points on each of these particular points, but, essentially, it’s a conglomeration of, “Well, we know when you’re going to need to work on the organic materials in this warhead, and we’re going to have to replace the neutron generator by this date. How about if we combine these two together and call that—and work on that as a joint life extension.” So, it’s a little dynamic from that standpoint, but the next 10 years worth of work is fairly well clear. Finish the W76 production; work on the B61, you know, the neutron generators, the power supplies, and the like; change—work on the radar; work on the nuclear explosive package to get the safety and security in it; and then we know we’re going to have to touch the W78, for reasons—you know, out in the future, for reasons that are better off discussed in, maybe, either a closed session or in a classified report to—

Senator BEN NELSON. All right.

Mr. D’AGOSTINO.—for the record.

Senator BEN NELSON. Well, and in that regard, some warheads, as I understand it, don’t have all the safety features that were identified by the Drell panel back in the ’90s. Is there a plan to incorporate, let’s say, all of the safety features in each warhead and weapon? Will this require any new pit designs or existing pits to be remanufactured or reused?

Mr. D’AGOSTINO. We—well, let me start with saying that our warheads are safe and secure now. I think it’s also important to note that they’re—as you accurately said, depending on which warhead we’re talking about, if it’s one of our newer warhead designs and we’ve had the opportunity to put more modern safety and security in it, we’ve done so.

So, what we hope to do, particularly with the B61 warhead, is make adjustments that will allow us to put—make sure we continue to use insensitive high explosives; make sure that we put the right kind of 21st-century security into those warheads. Some of them may require a modification to a pit; some of them, because we have a set of—a number of pits available, some of them may allow us to reuse pits that we’ve had before.

What the NPR allows us to do, which is very important for our lab directors and our scientific workforce, is, it allows us to study the full range of options, whether it’s refurbish the existing one, reuse something that we’ve used before, or replace a component,

because we think that's the best way to get 21st-century safety and security—we have the flexibility to study all of those and present to the President and Congress, and get authorization from the President and Congress, to move down any one of those particular tracks.

Senator BEN NELSON. There's always the question of having adequately trained and skilled staff. Can you give us some idea of how that is working for your Department? Are you encountering difficulties? And if so, are you able to overcome those difficulties so—

Mr. D'AGOSTINO. Right.

Senator BEN NELSON.—we keep adequate staff skilled?

Mr. D'AGOSTINO. A year—we've come a long ways in a year, Mr. Chairman. A year ago, there was a lot of uncertainty within my organization as to what the future held. In fact, I'd—you know, one—you can go back further than a year, because there was a general view that we did not have a bipartisan consensus on the deterrent. And we, of course, have a lot of very smart, capable folks that had plenty of options. And in many cases, they took those options and left the organization.

But, there is a group—there is a solid group of dedicated people left. They're very excited about the plan that the President has laid out, because they believe that it's not only the right plan, but they believe that's a plan that will be sustained—can be sustained over time. And that's the most important thing, is clarity in the work that's laid out before us. And so, I believe—frankly, I believe America is safer now, with clarity in the NPR, than we were before, because the work—because our workforce believes that the country cares about this.

Senator BEN NELSON. Okay.

Mr. D'AGOSTINO. Not just the stockpile, sir, but also the non-proliferation and counterterrorism work and the like.

Senator BEN NELSON. There is something about clarity, isn't there?

Mr. D'AGOSTINO. Yes, sir.

Senator BEN NELSON. Is there any question I haven't asked you that I should?

[Laughter.]

Mr. D'AGOSTINO. I felt I've asked—answered a lot of questions, but—

[Laughter.]

Mr. D'AGOSTINO.—I'll be glad to take some more for the record, if that would help.

Senator BEN NELSON. Let me check and see if we—

Mr. D'AGOSTINO. Yes.

Senator BEN NELSON. Oh, this is the toughest one, I guess.

[Laughter.]

Mr. D'AGOSTINO. Thank you, Madelyn.

[Laughter.]

Senator BEN NELSON. The NPR states that the U.S. will not develop new nuclear warheads, and that the life extension programs will not support new military missions. In this context, what is your understanding of the word “new”? And how does this fit with

the statutory definition of “new”? There are some differences there, so perhaps you can—

Mr. D’AGOSTINO. Sure.

Senator Ben Nelson:—help us understand that.

Mr. D’AGOSTINO. In my view, we—new nuclear warheads are warheads that are not based on previously- tested designs that— or are warheads that provide a new military capability; for example, an enhanced EMP warhead, or a neutron bomb, or a—what’s been euphemistically thrown around, the term “bunker-buster,” or a warhead that’s designed to defeat chemical or biological agents. Those are new military capabilities. What we—our approach is to be very consistent with the National Defense Authorization Act 2010, which talked about the Stockpile Management Program, which said, “Extend the life of existing warheads; ensure their safety, security, and reliability; to ensure that the stockpile can be extended without underground testing; to ensure that it provides an opportunity to reduce the size of the stockpile or reduce the numbers of different types of warheads; and to ensure that we have— we prevent an accidental detonation or deliberate unauthorized use of a warhead,” all within the current mission functions of the existing stockpile.

And so, you know, “new,” in my view—this is very consistent, frankly, I believe, with the language of the 2003—and I think—I forget, it’s, maybe—3143, I think, is the section of 2003 National Defense Authorization Act, whereby—in the context of the 2001 NPR, whereby advanced concepts—and what we looked at is to be new military capabilities to come to the front. It’s my view that there was a desire on the part of Congress that you wanted to be aware of any work that was going on to enhance military capabilities. But, the language is very clear; it did not apply to life extensions.

So, the approach we’ve laid out is a life extension approach, consistent with the Stockpile Management Plan, which does not bring in new military capabilities, and it ensures us confidence of using the underground test data.

Senator BEN NELSON. So, it’s really tied to additional missions, or something that changes significantly what the prior mission would have been with existing weapons, is that—

Mr. D’AGOSTINO. That—that’s right.

Senator Ben Nelson:—fair to say?

Mr. D’AGOSTINO. Yes. That’s right. Or, sir—and I would add from—at least from a technical standpoint, the—because of—I have the underground-test bar—

Senator BEN NELSON. Yes.

Mr. D’AGOSTINO.—that I want to make sure I cross over each time. It also includes designs that had—that are not based on previously tested designs. So, it would be both for me, but, at the bare minimum, for sure, the mission piece.

Senator BEN NELSON. Change is more tied to—or “new” is more tied to change than mission or design or capabilities. Is that accurate, as well? If you expand a capability, would that create a—

Mr. D’AGOSTINO. Well, for example—

Senator BEN NELSON.—something new?

Mr. D'AGOSTINO.—like, taking a warhead that we have, that might currently be at X kilotons, and now making it 2X or 3X. I—don't want to put words in General Chilton's mouth, but he and I testified earlier this morning, and he described it, kind of, from that standpoint, that the stockpile he has right now is what he needs to get—is to meet the—current and expected future mission requirements. And I believe, of course, we would—he would be in a position, next week, to—

Senator BEN NELSON. Sure.

Mr. D'AGOSTINO.—along with me, to be able to describe that in a little bit more—

Senator BEN NELSON. Okay.

Mr. D'AGOSTINO.—detail.

Senator BEN NELSON. Well, that would be an appropriate place for us to bring it up again.

Mr. D'AGOSTINO. Yes, sir.

Senator BEN NELSON. Well, I thank you very much for your patience and your testimony—

Mr. D'AGOSTINO. Thank you, sir.

Senator Ben Nelson:—and responding to the questions. Obviously, we're—this—the whole area of the treaty will be discussed even in more detail, and there may be different ideas, it appears, about how to pursue this. But, I thank you for enlightening us with your answers today, and look forward to seeing you next week.

Mr. D'AGOSTINO. Thank you, Mr. Chairman.

Senator BEN NELSON. Thank you.

Mr. D'AGOSTINO. Likewise.

Senator BEN NELSON. Meeting's—

Mr. D'AGOSTINO. Thank you, sir.

Senator BEN NELSON. Hearing's adjourned.

[Whereupon, at 3:58 p.m., the subcommittee adjourned.]