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THE CURRENT STATUS AND FUTURE DIRECTION FOR U.S. NUCLEAR WEAPONS POLICY AND POSTURE

HEARING

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

HEARING HELD
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THE CURRENT STATUS AND FUTURE DIRECTION FOR U.S. NUCLEAR WEAPONS POLICY AND POSTURE

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Wednesday, November 2, 2011.

The subcommittee met, pursuant to call, at 3:37 p.m., in room 2212, Rayburn House Office Building, Hon. Michael Turner (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. MICHAEL TURNER, A REPRESENTATIVE FROM OHIO, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. TURNER. I call to order the subcommittee. Good afternoon and welcome everyone to today's hearing on "The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture."

We have here today an all-star panel of government witnesses. While they need no introduction, I will do an introduction for those of you who are perhaps on C–SPAN. We have the Honorable James N. Miller, Principal Deputy Under Secretary of Defense for Policy at the U.S. Department of Defense; General C. Robert Kehler, U.S. Air Force, U.S. Strategic Command; the Honorable Ellen Tauscher, the Under Secretary of State for Arms Control and International Security at the U.S. Department of State.

We are glad to see you here today, and I must acknowledge Ellen, of course, as the past chair here and she—well, I served as ranking member. I can tell you that not only did we work in a great bipartisan basis, but I count Ellen Tauscher to be one of my mentors, and I greatly appreciate the help that you provided me when you served as chair of the committee.

And then we have the Honorable Thomas D'Agostino, Administrator of the National Nuclear Security Administration at the U.S. Department of Energy.

The administration has undertaken a series of ambitious "projects" regarding U.S. nuclear policy and posture, and the Congress has a significant role to play here as a co-equal branch of government entrusted by Article I, Section 8 of the Constitution, with responsibility to "raise and support armies ... provide and maintain a Navy..." and, under Article I, Section 9, to pay for those actions of the government Congress deems prudent.

And these "projects" that are currently pending with the administration are the U.S. nuclear force reductions under the New START [Strategic Arms Reduction Treaty] Treaty and the associated Section 1251 Plan, which provides for the modernization of

the U.S. nuclear deterrent, including the triad of nuclear delivery systems, nuclear warheads, and the infrastructure that supports them; the so-called Nuclear Posture Review Implementation Study or "mini-NPR," which we understand is intended to provide the President with options, possibly for future reductions in U.S. nuclear forces; and NATO's [North Atlantic Treaty Organization] Deterrence and Defense Posture Review, or DDPR, which will likely make recommendations regarding U.S. nuclear weapons in Europe.

As the witnesses know, the House of Representatives in the Fiscal Year 2012 National Defense Authorization Act, NDAA, exercised its constitutional responsibilities for supporting the Armed Forces—and stewardship of taxpayers' resources—to pass a variety of provisions regarding these administration projects. In reviewing Dr. Miller's testimony, I see that he is prepared to discuss these NDAA provisions in detail, and we certainly look forward to that.

Regarding the modernization program, it is at the heart of the agreement that led to ratification of the New START Treaty. Let me quote from Secretary Gates in his testimony before the Armed Services Committee last June.

He said, "Frankly, and just basically realistically, I see this treaty as a vehicle to finally be able to get what we need in the way of modernization that we have been unable to get otherwise."

These are powerful words, and they effectively show what I think all the witnesses understand: that New START and nuclear modernization are a package deal.

Indeed, the New START Resolution of Ratification that was passed by the Senate makes it clear that in the absence of full funding for the modernization program, the President needs to explain to the Congress whether it is still in the interests of the United States to remain party to the agreement.

I quote from condition nine of the resolution: it says, "If appropriations are enacted that fail to meet the resource requirements set forth in the President's 10 year [Section 1251] plan ... the President shall submit to Congress ... a report detailing ... whether and why, in the changed circumstances brought about by the resource shortfall, it remains in the national interest of the United States to remain a Party to the New START Treaty." I am pleased the President followed through on his commitment to request the funds for modernization of the nuclear deterrent pursuant to his revised Section 1251 Plan.

I am, however, concerned that the administration did not request an anomaly for the nuclear modernization program for this first continued resolution that expires on the 18th of this month. In other words, the administration asked for the dollars in the budget, but when it comes to the issue of actually funding that, the administration did not ask for, in the continuing resolution, an anomaly that would have preserved that funding, the short-term CR [continuing resolution].

As we are now heading toward a second CR, possibly until the end of this year, it will be telling to me as to whether or not the administration requests an anomaly for NNSA [National Nuclear Security Administration] Weapons Activities this time around.

Likewise, I am deeply troubled that your written testimony for today, Mr. D'Agostino, appears to us to have been watered down

by the White House Office of Management and Budget from its initially strong statement of complete support for the President's full budget request for Weapons Activities, to what can be considered a tepid statement of support for some level of modernization funding.

One would think it would be relatively easy for administration officials to state support for the President's full budget request.

General Kehler, I understand that you have been working with DOD [Department of Defense] and OMB [Office of Management and Budget] to finalize a letter regarding the proposed cuts to Weapons Activities. I wanted to express my interest in hearing from you directly, and Admiral Winnefeld, the senior military leadership for nuclear weapons on this issue.

I am not certain why the OMB cannot support the President's budget request for fiscal year 2012, but I intend to ask each of the witnesses whether or not they would recommend to the President an anomaly for NNSA in the event of another CR, and whether the continued funding of the nuclear modernization program in fiscal year 2013, pursuant to the current Section 1251 Plan, should be supported.

The answer to the second question should be an easy "yes" because, as the witnesses know, in a letter to several Senators in December of last year—while working to secure a ratification of the New START Treaty—the President pledged to support the nuclear modernization program for as long as he is in office.

I am, however, pleased that the Department of Defense is working hard to assist in securing this funding. Of course, a lot of this funding is the Department of Defense's own money. As the "Memorandum of Agreement between the Department of Defense and the Department of Energy Concerning Modernization of the U.S. Nuclear Infrastructure" makes clear, in May 2010, DOD committed to invest $5.7 billion of its own budgetary authority in NNSA's modernization program, with an additional $2.6 billion promised since then.

Now, these funds now must go to that purpose and not to other parochial purposes, like local water infrastructure projects, which we see as a threat to some of this continued funding.

Now, this document, the "Memorandum of Agreement between the Department of Defense and Department of Energy Concerning Modernization of the U.S. Nuclear Infrastructure," kind of a long title, is marked "For Official Use Only" and, therefore, I hesitate to put it as part of the unclassified record of this hearing.

I am going to ask Dr. Miller and Mr. D'Agostino if your staff will work with our committee staff concerning what portion of this document is sensitive and what needs to be redacted so that we can put in an unclassified version as part of the record.

[The information referred to can be found in the Appendix on page 93.]

Mr. TURNER. Regarding the NPR Implementation Study, I am anxious to learn the process being followed for the study, and the policy considerations and force structure options that are under review.

While I am aware that many previous administrations have put their imprint on these matters, I am not aware of any previous ad-

ministration that has stated the answer to its review before conducting or completing it.

In this case, the predetermined answer appears to be that further reductions are being considered and may be made. Let's look at the record of statements from administration officials about this study.

From the 2010 Nuclear Posture Review: "The President has directed a review of potential future reductions in U.S. nuclear weapons below New START levels."

President Obama's National Security Advisor, Tom Donilon, at the Carnegie Endowment in March of this year stated, "We're making preparations for the next round of nuclear reductions."

Gary Samore, the White House coordinator for Arms Control and WMD [weapons of mass destruction] Terrorism in an interview in May stated, "We'll need to do a strategic review of what our first requirements are and then, based on that, the President will have options available for additional reductions . . . there may be parallel steps that both sides could take or even unilateral steps the U.S. could take."

Now, let me say again, his quote includes, "unilateral steps the U.S. could take." Now, I am curious as to how this could square—a senior White House official—with that of Secretary Panetta, who said the following on the October 13th committee hearing—Secretary Panetta just said before us—"With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path."

I agree with Secretary Panetta, partially because I have yet to see any dividend from the unilateral steps that we took in abandoning, via the NPR, the submarine-launched nuclear cruise missile capability or the multiple warhead ICBM [intercontinental ballistic missile] capability.

And, of course, all of this is taking place when the ink on the New START Treaty is barely dry, and when data exchanges with the Russian Federation reveal that Russia has actually increased its deployed nuclear forces since the treaty entered into force. Increased.

What's more, the witness testimony before this subcommittee on October 14th from Dr. Mark Schneider, a member of the New START Treaty negotiation team, and Mr. Richard Fisher, respectively, made clear that "Russia is modernizing every leg of its nuclear triad with new, more advanced systems" and "China is steadily increasing the numbers and capabilities of the ballistic missiles it deploys" and is "actively working to develop a submarine-based nuclear deterrent force, something it has never had." Yet, the administration reviews are all being done to support further U.S. reductions. This is concerning.

Lastly, there is the NATO Deterrence and Defense Posture Review that is being discussed with our allies in Europe. Recently, as the Chairman of the United States Delegation to the NATO Parliamentary Assembly, I was able to discuss this issue with our allies at the meeting of the Parliamentary Assembly in Bucharest.

It was clear that many of our allies were deeply concerned with the direction that this review may take. For example, some NATO members have suggested that geographical relocation would be a serious step that the Russians could take to address the thousands of tactical nuclear weapons they have deployed on our allies' borders.

Of course, mere relocation of Russian nuclear weapons to some point farther east is not a serious step, and is certainly no reduction in their disproportionately large stockpile of tactical nuclear weapons.

That is why the Defense and Security Committee of the Parliamentary Assembly adopted, unanimously, my proposal to make clear that the geographic relocation will not be considered a reduction in Russian arms. I note that even the Russian delegation did not object to the designation that geographical relocation does not constitute a reduction in Russian arms.

I look forward to learning more about the DDPR from our witnesses, and finally, I am most concerned that the administration may be seeking to amend the NATO-Russia Council Charter to create guarantees regarding missile defense. That has no support here and it should be a non-starter.

This is a very important hearing, and I want to reiterate my thanks to each of our witnesses for appearing. I will now turn to the ranking member of the subcommittee, Ms. Sanchez, for her opening statement.

[The prepared statement of Mr. Turner can be found in the Appendix on page 51.]

STATEMENT OF HON. LORETTA SANCHEZ, A REPRESENTATIVE FROM CALIFORNIA, RANKING MEMBER, SUBCOMMITTEE ON STRATEGIC FORCES

Ms. SANCHEZ. Thank you, Mr. Chairman. I apologize to you for my voice. I am a little under the weather today. I would like to join Chairman Turner in welcoming Dr. Miller, General Kehler, Under Secretary Tauscher, and Administrator D'Agostino for being before us once again. I look forward to hearing about the opportunities and the progress in moving beyond a Cold War arsenal.

I would like to know, hopefully, through this hearing what our requirements are and how we will implement the policies and vision outlined in the Nuclear Posture Review, including how we can maintain a strong and reliable deterrent at lower levels, and what kind of arsenal we need to address current and foreseeable threats and, of course, how do we do that in a fiscally responsible manner?

And at the end of my comments, I will make a comment about the controversial NDAA provisions contained in that bill. But first, I am pleased that the President is leading the much-needed efforts to reduce the dangers posed by nuclear weapons in this post-war era because, of course, we need to move beyond policies and force structure derived from Cold War-era requirements and shift to deterrents that protect us today.

Looking in particular at the threats that are out there—and there are many—President Obama noted in his Palm Sunday speech in Prague in 2009 that "The existence of thousands of nuclear weapons is the most dangerous legacy of the Cold War." Even

with the considerable reductions of the past decades, it is still important to remember that the United States and Russia still maintain thousands of nuclear weapons.

Over 95 percent of the nuclear weapons available are in those two countries' hands. And so there is a lot of progress that can be made in bringing down those levels and ensuring and checking and working with each other to ensure that it is a safer world.

In 2009, the National Defense Authorization Act-mandated independent Commission on the Strategic Posture of the United States—it was led by Secretaries Perry and Schlesinger—concluded that "This is a moment of opportunity to revise and renew the U.S. nuclear strategy, but also a moment of urgency." I think we all agree and we have talked off to the side, many of us, including the chairman. There is a lot of movement going on right now in these times, and it is a time of opportunity.

The two Secretaries noted that "the nuclear deterrent of the United States need not play anything like the central role that it did for decades in U.S. military policy and national security strategy. But it remains crucial for some important problems."

And in their 2007 Wall Street Journal op-ed, "A World Free of Nuclear Weapons," Secretaries Henry Kissinger, George Shultz, William Perry and Senator Sam Nunn recommended "a series of agreed and urgent steps that would lay the groundwork for a world free of the nuclear threat."

And among those have included, "Changing the Cold War posture of deployed nuclear weapons to . . . reduce the danger of an accidental or unauthorized use of a nuclear weapon," and "Continuing to reduce substantially the size of nuclear forces in all states that possess them," and "Eliminating short-range nuclear weapons designed to be forward-deployed," and "Initiating a bipartisan process . . . to achieve ratification of the Comprehensive Test Ban Treaty."

We must also take a hard look at what we need to meet our national and our allies' deterrence requirements in light of the current and new threats out there. And we also have the responsibility to bear in mind the ramifications of the current economic crisis, and we must carefully consider what is urgent, what can be delayed, and what is no longer necessary.

Given what the requirements are, we must find ways to make smarter investments, and nuclear weapons activities and operations are no exception—are no exception. We are going through that right now with the "super committee" and we have to also take a look at this arena. These are important oversight decisions and, quite honestly, pretty awesome responsibilities for all of us up here and there to take a look at.

So I look forward to discussing what the requirements are for our nuclear deterrent, including: how do we size our nuclear arsenal to best reflect and address the current threats? What further nuclear weapons reductions may be needed as a tool to strengthen U.S. and international security and stability? Do we need, and can we afford, to sustain the triad for the next 70 years; what are the decision points; and what considerations impact that decision now? And what are the risks and the costs of retaining forward-based nuclear weapons in Europe merely as a political symbol if they are no

longer a unifying element of NATO and a useful military asset? And are there other ways to maintain a strong nuclear NATO alliance?

Third, our committee has had an engaging and serious debate on the nuclear policy provisions proposed by the chairman and my Republican colleagues during markup of the House-passed NDAA.

There was significant disagreement on these, and for the need for legislative action. There are issues that we have to revise, revisit, address with the Senate as we finalize our bill, and I remain concerned about several of these provisions, including their impact on national security and, quite frankly, whether they are even constitutional.

So, public debate on these issues is important. I look forward to advancing that debate today, and again, I thank all four of you for being before our committee. And with that, Mr. Chairman, I yield back.

[The prepared statement of Ms. Sanchez can be found in the Appendix on page 57.]

Mr. TURNER. Thank you. I will now turn to our witnesses. Before they begin, of course, I would like, if you would, to summarize your testimony in the 5-minute period so we can get to the issue of questions from Members.

But also, reminding you of my opening statement, we would appreciate if you, in your comments, might incorporate whether you would recommend that, in this upcoming continuing resolution, that NNSA Weapons Activities receive full funding and receive, as you know, an anomaly, and also if you believe that the President should, in 2013, continue his commitment of full funding for modernization.

Dr. Miller.

STATEMENT OF HON. JAMES N. MILLER, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR POLICY, U.S. DEPARTMENT OF DEFENSE

Dr. MILLER. Chairman Turner, Ranking Member Sanchez and members of the subcommittee, thank you for the opportunity to testify today. I am very pleased to join STRATCOM [United States Strategic Command] Commander Bob Kehler, Under Secretary Ellen Tauscher, and Administrator D'Agostino.

The subcommittee asked us to address the ongoing administration review of U.S. nuclear planning guidance and several additional issues. I would like to summarize key points from my written statement and ask that the full statement be entered into record. First, I am going to start with some numbers for context. The U.S. nuclear arsenal today consists of about 5,000 warheads. In addition, we have several thousand warheads awaiting dismantlement. Unclassified estimates suggest that Russia has 4,000 to 6,500 total nuclear warheads, of which 2,000 to 4,000 are tactical nuclear warheads.

China is increasing the size of its nuclear arsenal, but is estimated to have only a few hundred nuclear weapons. North Korea has tested a plutonium-based weapon design and appears to be trying to develop a highly enriched uranium design and Iran con-

tinues to defy the will of the international community and pursue its nuclear ambitions.

It is in this context that President Obama directed a follow-on analysis to implement the 2010 Nuclear Posture Review, or NPR. That work, as the chairman and ranking member noted, is now under way and we are focused on achieving the five objectives described in the Nuclear Posture Review.

First, preventing nuclear proliferation and nuclear terrorism; second, reducing the role of U.S. nuclear weapons in U.S. strategy; third, maintaining strategic deterrence and stability at reduced nuclear force levels; fourth, strengthening regional deterrence and reassuring U.S. allies and partners; and fifth, and critically, sustaining a safe, secure, and effective nuclear arsenal. We expect this analysis to be completed before the end of the calendar year.

This NPR Implementation Study will be followed by new Presidential guidance, and then in succession, the Secretary of Defense and Chairman of the Joint Chiefs will then issue more detailed planning guidance to the military, and then STRATCOM will revise its military plans.

When complete, our analysis of deterrence requirements will also help inform future arms control proposals, as the Under Secretary will discuss in more detail, and I might note, as the military did and the Department of Defense did as part of the Nuclear Posture Review to inform New START treaty negotiations.

As the chairman noted, in parallel to this administration work, NATO is undertaking a Deterrence and Defense Posture Review to determine the appropriate mix of nuclear, conventional, and missile defense forces that NATO will need to deter and defend against threats to the alliance.

Work is ongoing. We expect it to be complete before spring 2012, prior to the NATO summit in Chicago. And it is proceeding in accordance with the principles that have been central to NATO's nuclear posture for decades, including retaining an appropriate mix of conventional and nuclear capabilities, sharing the risks and burdens of nuclear deterrence, and encouraging Russia to better secure and reduce its arsenal of non-strategic nuclear weapons.

The United States is fully engaged in this effort, and I want to reiterate that any changes in NATO's nuclear posture would only be undertaken as part of a decision by the alliance. A critical issue that we face is ensuring funding for the nuclear enterprise. When he took office, President Obama made reversing the declining budgets for the nuclear complex a top priority. And the administration's Section 1251 Report, in fact, includes a plan for over $125 billion in spending on strategic delivery systems, and about $88 billion for stockpile and infrastructure costs over a 10-year period.

And I would like to thank this subcommittee for supporting the administration's budget request for fiscal year 2012. Cuts to NNSA funding in the House and Senate appropriations bills are a big concern. The President has asked for the resources that we need even in a tough fiscal environment. Now we need Congress' help. We look forward to working with this committee and other Members to that end.

I also want to touch very briefly on a number of provisions of concern in the current version of the NDAA, the Defense Author-

ization Act, as passed by the House, H.R. 1540. And I would be pleased to discuss them further after this statement. H.R. 1540 would dictate the pace of reductions under New START in a way that would bar DOD and DOE [Department of Energy] from following the most cost-effective means to implement reductions.

It could preclude DOD from being logistically able to meet New START Treaty timelines for reductions. It would divert resources from stockpile sustainment in ways that tax the very programs that we all want to support, and it would encroach on the authorities to set nuclear employment policy that have been exercised by every President in the nuclear age.

In conclusion, sustaining the U.S. nuclear deterrent will be the work of many administrations and many Congresses, and we believe strongly that it will require sustained bipartisan support. And even as we face sustained downward pressure on DOD and DOE budgets, we believe we need to sustain a strong bipartisan consensus to address these nuclear issues as apolitical national security priorities.

As our work on the NPR Implementation Study continues, we welcome vigorous and important debate on these matters of national importance, and I appreciate the opportunity to be here today and look forward to follow-on conversations, including in a classified environment, and look forward to working with the committee on these issues.

Thank you, and I look forward to your questions.

[The prepared statement of Dr. Miller can be found in the Appendix on page 60.]

Mr. TURNER. Thank you.

General.

STATEMENT OF GEN C. ROBERT KEHLER, USAF, COMMANDER, UNITED STATES STRATEGIC COMMAND

General KEHLER. Thank you, Mr. Chairman, Ranking Member Sanchez, members of the subcommittee. I really appreciate you inviting me to share my views on strategic nuclear deterrence issues, including the implementation of the Nuclear Posture Review, New START, and nuclear deterrent force requirements. I, too, appreciate the opportunity to join with my colleagues here today as well, and would ask that my full statement be accepted into the record as well.

Like Dr. Miller, I think it is useful to place my remarks in the context of the April 2010 Nuclear Posture Review, which placed the prevention of nuclear terrorism and proliferation at the top of the U.S. policy agenda, and described how the United States will reduce the role and the numbers of nuclear weapons. At the same time, the NPR recognized as long as nuclear weapons exist, the United States must maintain a safe, secure, and effective nuclear arsenal to maintain strategic stability with other nuclear powers, deter potential adversaries, and reassure our allies and partners of our security commitments to them.

The United States Strategic Command is assigned several important roles in executing the Nation's nuclear strategy, as it was described in the NPR. First, we are responsible for synchronizing planning for DOD combating weapons of mass destruction efforts,

in coordination with the other combatant commands, the services, and appropriate U.S. Government agencies.

Second, our men and women operate the Nation's strategic nuclear deterrent forces 24 hours a day, 365 days a year, as directed by the President. And third, we are responsible with providing the President with credible response options to deter attack and to achieve national security objectives should deterrence fail.

We do so mindful that deterrence is no longer a one-size-fits-all proposition, that the Nation's deterrence approaches must be tailored to today's global environment, and that the Nation's deterrence toolkit includes capabilities beyond nuclear weapons. In short, these demands drive our strategy and, in turn, our nuclear requirements and employment planning.

As directed in the Nuclear Posture Review, we are now working with the Office of the Secretary of Defense, the Joint Staff, and the services to inform the review of the nuclear weapons employment guidance that STRATCOM receives from the President, the Secretary of Defense, and the Chairman of the Joint Chiefs of Staff.

STRATCOM plays a significant role in analyzing how the deployment planning guidance drives nuclear force requirements and force structures, and we are playing such a role in the strategic requirements study. We are supporting the study by providing military advice regarding potential changes in employment guidance consistent with the NPR, and we are providing analysis and advice on the force structuring and the force posture required to meet our strategic needs.

As you know, STRATCOM played a similar role providing analysis and advice to the team that developed the U.S. New START negotiating position. We have a little more than 6 years to comply with treaty limits, so we are also working closely with OSD [Office of the Secretary of Defense], the Joint Staff and the services to determine how to implement the treaty provisions safely, securely, and efficiently, what resources are required, if any, to implement the eventual force structure decisions, and how best to phase and synchronize the implementation strategy.

The NPR validated the continuing need for the triad, and the 1251 Report outlined the necessary sustainment and modernization plans, including requirements and timelines. These plans are essential to maintaining long-term confidence in our nuclear deterrent capabilities. Unfortunately, the nuclear enterprise simultaneously faces significant recapitalization challenges and extraordinary fiscal pressures.

But in my view as the combatant commander responsible for the nuclear deterrent force, for our Nation's security, we must invest in these forces and the highly specialized enterprise that supports them. This includes completing our nuclear weapon life extensions, sustaining and beginning the phased modernization of our delivery platforms, conducting scientific surveillance of the stockpile, eliminating unneeded weapons, and positioning for further reductions that may be directed.

Mr. Chairman, STRATCOM is moving forward to implement the New START and NPR effectively, while maintaining our focus on ensuring a safe, secure, and effective nuclear deterrent force today and for the long term.

Thank you again for this opportunity, and thanks to you and the committee for your interest and support. I look forward to answering your questions.

[The prepared statement of General Kehler can be found in the Appendix on page 70.]

Mr. TURNER. Thank you. Under Secretary Tauscher.

STATEMENT OF HON. ELLEN O. TAUSCHER, UNDER SECRETARY FOR ARMS CONTROL AND INTERNATIONAL SECURITY, U.S. DEPARTMENT OF STATE

Secretary TAUSCHER. Chairman Turner and Ranking Member Sanchez, members of the subcommittee, I want to thank you for this opportunity to testify on the future direction of U.S. nuclear weapons policy and posture.

I am really happy to appear before your subcommittee, which provided me the honor of working side by side with many of you over seven terms in the House. I am equally proud to be sitting next to my esteemed interagency colleagues and testifying on the Obama administration's nuclear policies.

I will focus my initial marks on two areas where State is playing a major role. The ongoing Deterrence and Defense Posture Review, or DDPR, in NATO, and the preparations, process, and expectations for future arms control efforts with Russia and other countries. As outlined 2 years ago by President Obama in Prague, the administration is committed to continuing a step-by-step process to increase U.S. security by reducing nuclear weapons worldwide. That effort includes the pursuit of a future agreement with Russia for reductions in all categories of nuclear weapons: strategic, non-strategic, deployed, and non-deployed.

President Obama is committed to seeking to initiate negotiations to address the disparity between the non-strategic nuclear stockpiles of Russia and the United States, and to secure and reduce non-strategic nuclear weapons in a verifiable manner. The key principles that Secretary Clinton outlined at the 2010 NATO Foreign Ministerial meeting in Tallinn will guide our approach.

We aim to show strong Allied support for the President's Prague vision and underscore our common view, as the Alliance agreed at the November 2010 Lisbon summit, that NATO will remain a nuclear alliance as long as nuclear weapons exist.

At Lisbon, the Alliance reaffirmed that the strategic nuclear forces of NATO's nuclear armed member states are the "supreme guarantee of the security of the Allies" and agreed that NATO should maintain the broadest possible level of burden-sharing on nuclear matters.

NATO allies further agreed to seek to create the conditions for future nuclear reductions, and noted that the Alliance should seek Russia's agreement to increase the transparency of its nuclear weapons in Europe and to relocate those weapons away from the territories of NATO members. We are committed to consulting closely with allies and making decisions by consensus on NATO's nuclear deterrent.

The DDPR is examining NATO's overall posture in deterring and defending against the full range of threats to the Alliance. The review is to identify the appropriate mix of conventional, nuclear,

and missile defense capabilities that NATO needs to respond effectively to 21st century security challenges. The review also aims to strengthen deterrence as part of our commitment to Allied security. The goal is to complete the review for the May 2012 NATO summit that President Obama will host in Chicago.

The DDPR also provides us an important opportunity to consult with allies about nuclear deterrence in future Russian nuclear talks. Those consultations will inform our consideration in the next steps with Russia on nuclear reductions. As a next step in our bilateral dialogue with Russia, we seek to conduct a broad policy discussion on the various considerations that affect strategic stability.

We also hope to deepen this engagement to discuss key concepts in terminology which will become relevant as we prepare to discuss future reductions in strategic and non-strategic nuclear weapons, including both deployed and non-deployed weapons. We also would like to increase transparency on a reciprocal basis with Russia. We are thinking through how such transparency measures might be implemented, and have consulted with our allies through the DDPR.

I am happy to report that implementation on the New START Treaty is proceeding smoothly since its entry into force on February 5th. The New START Treaty places equal arms limits on both sides, limits that are significantly lower than the levels provided for in the earlier START treaty and the Moscow Treaty.

The New START Treaty provides us confidence that, as Russia modernizes its strategic forces, Russian force levels will not exceed the treaty limits 7 years after entering into force and continuing for the remainder of the treaty's duration. The New START Treaty contributes to our security not only through its limits, but also through its strong verification regime.

The treaty provides us greater certainty about the composition of Russia's forces. This verification regime provides information and access that we would otherwise lack. Without the New START Treaty, our inspectors would not be able to visit Russian strategic weapons bases. To date, we have conducted 13 onsite inspections inside Russia. New START's verification regime enhances predictability and stability with the U.S.-Russian nuclear relationship, and reduces the risk of miscalculation, misunderstanding, and mistrust.

Mr. Chairman, Ranking Member, I look forward to answering any of your questions and, once again, it is an honor and a privilege to be here.

[The prepared statement of Secretary Tauscher can be found in the Appendix on page 80.]

Mr. TURNER. Thank you.

Mr. D'Agostino.

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

Mr. D'AGOSTINO. Chairman Turner, Ranking Member Sanchez and members of the subcommittee, it is a real honor to be here today and be able to talk to you about the work we are doing in

the National Nuclear Security Administration as well as with our interagency partners on taking care of this vital mission.

I also want to thank the committee for your continued support of the Department of Energy and the National Nuclear Security Administration. We have more than 35,000 men and women across our enterprise working to keep the country safe, protect our allies, and enhance global security. Your leadership and support have made their jobs easier.

The President has made strengthening the nuclear security and the nonproliferation regime one of his top priorities. Over the last few years, we have worked tirelessly to establish a consensus on U.S. nuclear policy. The commitment of the White House has reinvigorated my entire organization. Furthermore, President Obama's commitment to reverse a decline in investment that took place before he entered office is essential for accomplishing our nuclear security work.

This commitment was reflected in the President's 2012 budget request for the NNSA and, in fact, it was also reflected in his 2011 budget request. This request reflects an integrated 10-year plan and identifies the funding necessary to ensure the safety, security, and effectiveness of our nuclear stockpile, modernizing infrastructure we need to execute our mission, and revitalize the science, technology, and the engineering base that supports the full range of our nuclear security activities.

Investment in these capabilities over the next decade is essential, and—I cannot over emphasize this point—it will require sustained, multi-year support from future administrations and Congress.

The stability we have gained from the NPR and New START has allowed us to plan and use our resources much more effectively. We have a comprehensive Stockpile Stewardship and Management Plan that is updated annually and provides a long out-year review on the stockpile as well as the science, infrastructure, and human capital necessary to execute the nuclear modernization work and perform the full range of nuclear security work.

I would like to express my concern, however, that this sense of stability could be eroded given the uncertainties stemming from the reductions Congress is contemplating in the fiscal year 2012 budget process. These uncertainties directly impact our workforce, our ability to efficiently plan and execute our programs and, ultimately, the ability to be successful.

In order to plan and execute an integrated, complicated program efficiently, we have developed and received support for the 10-year plan outlined in the 1251 Report. However, this consensus for nuclear modernization is facing great uncertainty in the face of today's fiscal challenges and limitations imposed by Congress in the Budget Control Act.

This consensus is also under attack by some who are spreading incorrect cost estimates. By using numbers at potentially three or four times higher than what it would actually cost to modernize and maintain our stockpile, the approach appears to use our current fiscal environment to potentially tear up the path that the President and Congress have laid out for us.

The 1251 Report makes clear that the total for the Department of Defense and NNSA will cost approximately $200 billion over the

next 10 years, not the $600-plus billion or so that some are claiming.

It is critical to accept the linkage between modernizing our current stockpile in order to achieve the policy objective of decreasing the number of weapons we have in our stockpile, while still ensuring that the deterrent is safe, secure, and effective.

As you know, the United States will continue to have nuclear weapons for the foreseeable future, and many of our projects are vital to national security. The longer these projects are delayed, the more expensive they become. Projects like the Uranium Processing Facility and the Chemistry and Metallurgy Replacement Facility will allow us to replace aging Cold War infrastructure.

And at the other end of the life cycle of these materials, the Mixed Oxide Fuel Fabrication Facility represents a critical nonproliferation effort that will result in the elimination of enough material for approximately 17,000 nuclear weapons. It is the only permanent plutonium disposition method agreed to by the United States and Russia, and has been supported by every President and Congress since the idea was introduced.

Our Stockpile Stewardship Program, which allows us to assess and certify the stockpile without returning to underground testing, has grown increasingly important. Our world-class scientific capabilities, for example in modeling and simulation, continue to be developed to realize the Stockpile Stewardship Program today. And today we actually have a greater understanding of how a nuclear weapon behaves than we did during the days of testing.

Investing in a modern 21st century enterprise is not just about the stockpile. As the President said in Prague in April of 2009, the threat of a terrorist acquiring and using a nuclear weapon is the most immediate and extreme threat we face.

The investments we make today help support the full range of our nuclear security mission, which includes countering nuclear terrorism.

As part of our nonproliferation work, we are working to support the International Atomic Energy Agency and assisting many member states around the world to implement their Nuclear Non-Proliferation Treaty obligations.

In our strategic arms control verification work, we are leveraging the expertise of our physicists, our engineers, and our scientists to advance radiation protection technology and equipment, and we are leading the international effort to implement more stringent standards for the physical protection of nuclear material around the world.

Our engineers are also working to complete the design work on the nuclear reactor plant for the *Ohio*-class replacement submarine. This effort is a continuation of the longstanding unique role the NNSA serves in partnership with the United States Navy.

I would like to take a moment, a brief moment, to answer your question about the anomaly, Mr. Chairman. The anomalies depend of course if they are—we anticipate a continuing resolution coming, we know the day is approaching us, 18 November. But the decision of whether to pursue an anomaly involves a couple of factors. One is the length of the anomaly. At this point right now, we don't know if there will be an anomaly, first of all, and if there is a con-

tinuing resolution, how long it will be. A short-term continuing resolution coupled with the second factor, which is, what kind of resources do we currently have available to continue our programs without impact to the overall direction that we have—those two factors are key elements in deciding whether the administration pursues an anomaly. We are working very closely with the White House on this question and as we get closer to the date, we will be in a position to make a recommendation on this particular point. It really depends on those two particular factors of which right now, I don't have all the data, particularly on the first one, the length of the continuing resolution.

That concludes my statement, sir.

[The prepared statement of Mr. D'Agostino can be found in the Appendix on page 84.]

Mr. TURNER. Thank you. I just, to follow on your comment on the anomaly. I certainly understand your answer and it certainly is a very practical and reasonable statement of, basically, if you need the money you would ask for it, and if you have other reasons, other ways to—you have the money or it is not needed in the short term, that you might not ask.

But I would like you to consider, and all of our witnesses to consider, the message that it sends. Because at the same time the House is looking at cutting, if the anomaly is not requested, it looks as if it is not necessary for the House to fund, and so that might be your third environmental context that you might want to put in, as far as your request for anomaly, because it doesn't look like the administration is doing an "I want it" in one hand, and a wink in the other, by not asking for the anomaly. So if you would take that into consideration, and all of you, as you look to recommendations of the anomaly, I would appreciate that.

Because we have so many Members in attendance we want to make certain that we have an ability for people to ask questions. I am going to ask three questions for my start, two of which, the first two, are relatively easy because they are commercials. I am going to give an opportunity for each of you to give a commercial for us.

Mr. D'Agostino, you begin, actually, in your statement, addressing what my first concern is of the first of those two where I am asking for a commercial. And that is, the issue of the statements that have been circulating that the U.S. is going to spend over $700 billion of nuclear weapons and related programs over the next 10 years. Mr. Markey circulated a letter signed by 62 Members that said that. It was followed on by The New York Times in an editorial that said the number is $600 billion over the next 10 years.

You, in your statement before us just now, said it is slightly over $200 billion that is going to be spent. So I would like each of you to respond to that, the issue of the actual cost.

The second part of that is, is the reason why that that is coming about is because we are under these budgetary pressures? I think that this false assumption that with budgetary pressures that if there are reductions, there is this great savings that is going to occur. And I try to tell people that, you know for example, if this room was a nuclear storage facility and you had a nuclear weapon in it, and you only had 1, versus if you had 20, you are not going

to have less people outside the door. And, similarly, I know, Mr. D'Agostino, you tell us about the room down the hall where we have scientists charged with knowledge with respect to nuclear weapons, and knowledge is not something that has a reduced demand based upon the numbers of weapons that we have deployed.

So my first question is, would you all speak—and Under Secretary Tauscher, you are welcome to chime in on this one also if you would like, but it is not directed at you—to the issue of that we are not spending $700 or $600 billion, that it is slightly over $200 billion over the next 10 years. And the second aspect is that policy, not budgetary pressures, should be the focus of reductions, and that the savings are somewhat elusive, they are not as they are being expressed in these calls for reductions. If you might give us some of your wisdom on that, I would appreciate it.

We will start with Dr. Miller.

Dr. MILLER. Mr. Chairman, as you know, the Section 1251 Report that was submitted by the administration included our best estimate of the total costs of sustaining and modernizing the nuclear enterprise and the delivery systems from fiscal year 2012 through fiscal year 2021. That estimate was $125.8 billion for the delivery systems and about $88 billion for the NNSA-related costs.

And my math suggests that that is, as the administrator said, a little over $200 billion over that period—close to $214 billion.

I have had an opportunity to look at some of the materials that were referenced in the cost estimates just before coming over here and I, without giving this more time than it deserves, suffice it to say there was double counting and some rather curious arithmetic involved.

Mr. TURNER. Do you wish to comment with respect to the issue of savings? Because I think that people really do look at this as a "take a number and divide by how ever many you reduce them, and you have those savings," and that is not exactly the case.

Dr. MILLER. Yes, I would like to comment, thank you.

A strategic approach to the budget overall does not involve taking an equal percentage from every element of the budget, and the Department of Defense certainly is committed to taking a strategic—in a different sense than strategic weapons, now, but a thoughtful approach, a strategy-driven approach to the reductions. We are looking to take north of $450 billion out of the defense program over the next decade and as a result of that, as Secretary Gates had said and Secretary Panetta has said since, essentially everything is on the table; that doesn't mean everything should get the same treatment.

We will look hard at our own spending within nuclear forces to ask where savings could be gained while still producing the same capabilities that we need, just as we are looking hard in other areas. And I know that we will owe another Section 1251 Report with the new budget.

And the one constant I can promise in that is that we will continue to propose what we believe is necessary for sustaining a safe, secure, and effective nuclear deterrent, including the delivery systems and including the infrastructure, science, and technology and work on weapons that is required.

Mr. TURNER. Thank you.

General Kehler.

General KEHLER. Mr. Chairman, I would agree with both those comments. I, too, agree with the 1251 Report and the $200-plus billion that it documented for the need to both sustain and begin the modernization of the nuclear enterprise over the next 10 years.

The second point—and I would agree here, totally, with Dr. Miller as well—given the magnitude of the first round of budget cuts that the Department is dealing with, and certainly that the combatant commanders have been asked to help the services deal with, we are looking for every possible place that we can find that we can be more efficient while we maintain our military capability. I would say that we have not been immune from that look, nor should we have been immune from that look. I think that Congressman Sanchez said this, though, in her opening remarks, that there are decision points that are along the way here that do give us some flexibility in terms of how we ultimately decide to modernize and how we can go forward.

So I do think that, in addition to looking for every place we can save money, I also agree with you, in some places, this is not a one-for-one, "take something out and you automatically save some X amount of money." It is a more complicated answer than that. But there are also some key decision points that are coming along, where I think that there is still some flexibility to do some shaping.

Mr. TURNER. Mr. D'Agostino, would you like to embellish your comment you made in your statement?

Mr. D'AGOSTINO. I would agree with Dr. Miller with respect to the math and the numbers that the administration put out in its 1251 Report. Regarding your second question, I would like to add a little bit if I could.

I think it is important to recognize that what we have is a capability-based enterprise. This is a nuclear security enterprise. It is not a nuclear weapons enterprise; it is a nuclear security enterprise. It is an enterprise that, of course, takes care of the deterrent—because the President said, as long as weapons exist, we are going to take care of them to make sure they are safe, secure, and effective.

But it is an enterprise that does so much more. As an enterprise, it does nuclear nonproliferation work in over 100 countries around the world with the State Department. It is an enterprise that does nuclear counterterrorism work with our partners in the Intelligence Community and the Defense Department.

It is an enterprise that does nuclear forensics work, as we work with our key allies to make sure that, if material is found, we are in a best position to be able to attribute where this material came from, and it is an enterprise that does nuclear emergency response.

And nuclear emergency response is something that we actually used earlier this year in assisting our Japanese colleagues with the Fukushima event. Those assets, those key assets, came from the account that Congress authorized and appropriates. It is called the Weapons Activities Account. In reality, not all of that account, that Weapons Activities Account, is work exactly on the nuclear weapon. It provides that base capability to address all of these other things.

One last point, and I will yield back. This enterprise, because it is a capability-based enterprise, it can work up and take care of a

stockpile size. I mean, it is fairly independent at low numbers. And this is where we are.

Jim Miller talked about the number of warheads that we have and are active in the stockpile. It is able to take—that capability, whether you do one or whether you do more than one, you need the same amount of material. And that is the kind of enterprise we have.

This is not a Cold War enterprise, where we can do thousands and thousands and thousands of warheads, as we did back in the 1960s, where we had over 31,000 warheads. It is completely different.

But I wanted to make—the shift we are making in the NNSA and in the administration is to shift the work from a nuclear weapons complex to a nuclear security enterprise, to bring in those other elements, because those are the elements that the President had laid out in the NPR, that we feel would be a key national security and global security challenge.

Mr. TURNER. Thank you. And in the second aspect of the commercial, we are all in agreement that the nuclear modernization needs to go forward. I mean, this committee passed in its bill full funding, the administration asked for full funding.

We are all facing now the bills that came out of the Senate and the House Energy and Water Appropriations Subcommittees, and then that had reductions in funding for nuclear modernization. So a question, obviously, that people will have is, you know, what is the difference? Is there? What is the effect, if the cuts go into place, instead of what we all have agreed would be the appropriate level of funding?

I will start with you, Dr. Miller.

Dr. MILLER. Mr. Chairman, I will answer at a general level, and leave the technical details to Administrator D'Agostino.

At a general level, the first order effects are going to be that the NNSA, with the overall level of funding, will be forced to make very difficult trades between investing in science and technology that is necessary to support the overall efforts that the administrator described, and the infrastructure that is required to implement those, and to do the life extension programs that the Department of Defense is focused on. As you look at the level of reductions that have been proposed by both the House and the Senate in the appropriations, some essential activities will not be undertaken.

If you look within those reductions, at the specifics, we have particular concerns for the Department of Defense reductions in funding for the B61 Life Extension Program.

That is a critical weapon system for both our bombers and for our dual-capable aircraft, and reductions also in the W78 Life Extension Program, where there are cascading effects, if one program is delayed, the next one is delayed. And again, Mr. D'Agostino can give greater details, but one of those effects is that, at the end of the day, the United States gets less product for more cost because these changes in programs are going to drive up costs overall.

Mr. TURNER. General Kehler.

General KEHLER. Mr. Chairman, I would just add that if we are referring specifically to the markups dealing with Department of

Energy and NNSA part of the budget, then I would just add that I am very concerned about the impact on life extension programs.

I have a concern for the broader enterprise as well, as the administrator suggested, but we have got some near-term issues that will impact us in terms of life extension programs for aging weapons.

In a broader context, though, I also have concerns as budget reductions are related, either to our efforts to sustain the existing force, or our efforts to modernize the existing force. And we find ourselves at a point in time where several modernization programs have begun.

It is important for us to continue to sustain this safe, secure, and effective deterrent force as we transition this time period to future modernization. And, of course, I have concerns in both of those areas, in the macro sense, as we struggle with budget reductions.

Mr. TURNER. Mr. D'Agostino.

Mr. D'AGOSTINO. Obviously, we have two bills—one from the House, one from the Senate, in both subcommittees; the marks are different. The House is down, overall, for the NNSA by $1.16 billion. That is out of about the request of $11 billion or so. So it is a pretty sizable percentage-wise reduction. The Senate reduction is significantly less, $732 million as a result of that.

Focus a little bit on the weapons account, I believe that may be where some of your questions come from, but I do want to mention nonproliferation, because that has an impact. The President has laid out a fairly clear message with respect to the desire to secure nuclear material around the world in 4 years, which, we believe, is absolutely critically important.

Both bills are marked on the plutonium and uranium facilities, about $150 to $200 million. Those reductions are going to cause us to look very closely—if they, if we end up, in some way, in this region, are going to cause us to have to look very closely at both of those facilities.

It doesn't, because we obviously are authorized and appropriated on an annual basis, the 1251 Report makes very clear about out-year commitments and requirements to do this.

It would be difficult to actually run—in fact, I would say close to impossible—to run a large construction project efficiently if every year we will anticipate having huge deltas between House and Senate and the administration requests, whether it is President Obama's budget request or whatever happens out in the future.

It is just a horribly inefficient way to deliver a construction project. And nobody, frankly, in their right mind would run a program this way.

We will have to take a look at what makes sense, balancing what Congress will support in the out-years but, more importantly what the requirements are, because the requirements are the things that ultimately will take us in the direction that we believe the Nation needs to go into. And the President has been very clear about his requirements and he has done it with two budgets in a row.

On the life extension area, both the Senate and the House took different approaches in the life extension area. Essentially, the House largely did not reduce the resources in the Directed Stock-

pile Work account, which is actually the account that works on the stockpile itself directly.

But the Senate took a bit of an aggressive approach. That is going to have to get worked out if there is a conference, if things don't work out, we are going to wait and see how that one looks. But I am with General Kehler on this.

We have very real needs with respect to the B61 warhead. We are looking at it from a strategy standpoint, on it being able to address the Nation's needs out in the future. We don't want to necessarily disarm by, you know, just attrition, because we can't agree.

We are seeking—we believe this is the right plan, and this is why we have it put forward.

This group has spent a lot of time on Capitol Hill talking to folks, both Members and staff, and obviously we are going to continue to need to work with you and others to make sure that there is clear understanding about what the President has put forward in his plan and what the best way to move forward in that area.

It is important also to say that reductions in what we call the campaigns—the science campaigns, the computing work—these types of reductions themselves, in one area it is cut by $140 million, in another area it is only cut by $60 million. But this is work that directly supports enabling technologies.

This is the work to make sure these technologies are the ones that allow us to certify the stockpile on an annual basis without underground testing. Reductions in these areas have a direct impact on the President today in the ability to certify the stockpile without underground testing. We cannot overemphasize that particular point.

I should probably just state one thing about nonproliferation, and then the naval reactors area before I stop. Unfortunately, I could probably talk for too long on this area.

Nonproliferation work we have right now, we are deeply concerned about our ability to convert research reactors worldwide from highly enriched uranium to low-enriched uranium. And two, having the resources to buy the long-lead material, the casks and containers necessary to move highly enriched uranium and plutonium materials from around the world back to the United States or back to Russia where it is in a secure area.

We are on the ragged edge, in my opinion, of dropping the—making it very difficult for us to meet the President's vision here. And I don't think that is good for anybody.

The Naval Reactors Program itself, in both cases, has undergone either, depending on how you look at it, $60 million or $100 million reduction or so. Those reductions, in many cases, foreshadow decisions that the Defense Department has already made—decisions on the path forward on the need to replace the submarine.

So, we are responding with a program. This is what this does. And what this does is put significant—makes it very difficult, in my opinion, to be able to honor those commitments that the Defense Department is asking us to do.

I will stop there. I think I can go longer, but——

Mr. TURNER. I am going to hold the—you guys have given such great and excellent answers on those topics, which are very impor-

tant. So, I am going to hold the rest of my questions until the second round.

But before I turn it over to the ranking member, Dr. Miller, I have one real quick one for you. In the same vein that you were commenting, we all know that those cuts coming out of the Energy and Water Appropriations bills affect the fact that Secretary Gates transferred $8.3 billion in DOD top line budget authority at the NNSA over a 5-year period to help the modernization efforts.

Did you know the Energy and Water Appropriations bills cut those modernization efforts while adding money to the President's budget request for water projects? What is DOD's view of that?

Dr. MILLER. Mr. Chairman, let me say on the record that DOD transferred those funds with the expectation and understanding that the resources would go to weapons-related activities.

I think I do not want to get into the question of trying to track dollars and proposals as it goes from the administration over to the Hill. But clearly, as we look at the future of NNSA funding and we look at any possibility of DOD transferring additional resources, some of which of the amount you have noted have been withheld in DOD. We would want to have an understanding that the budget provided by Congress was going to be at a level that was, of course, both sufficient but also sustainable over time so they can get stability in the program.

Mr. TURNER. Okay.

Ms. Sanchez.

Ms. SANCHEZ. Thank you, Mr. Chairman.

The current Nuclear Force Modernization Plans call for the Navy to spend around $110 billion to build a new fleet of nuclear-armed submarines. And the Pentagon estimates that the total cost of building and operating the new submarine is going to be about $350 billion over its 50-year lifespan.

And the Air Force also intends to spend about $55 billion on procurement of 100 new bombers and an unknown sum on new land-based intercontinental ballistic missiles. And additionally, the NNSA plans to spend $88 billion over the next decade to refurbish existing nuclear warheads and rebuild the factories that make key nuclear warhead parts. However, U.S. military leaders have stated that our nuclear weapons budget is not grounded in a coherent overall strategy.

Former Vice Chair of the Joint Chief of Staff General Cartwright noted in July 2011, "We haven't really exercised the mental gymnastics, the intellectual capital on that, what is required for nuclear deterrence, yet ... I'm pleased that it's starting, but I wouldn't be in favor of building too much until we had that discussion." Now, that was in July of 2011.

Do you agree with General Cartwright that the U.S. shouldn't make procurement commitments until we establish how many nuclear weapons we need for deterrence? Dr. Miller.

Dr. MILLER. General Cartwright was involved in the, as we began planning for the study that we were talking about earlier. And so his comments about thinking hard about the requirements for deterrence in the future I think are well taken, and they are something that this administration is working hard on. We intend to have a conclusion by the end of the year.

At the same time, the requirement to reconsider what is needed for deterrence and how to best provide stability, what is the best approach for nonproliferation, is something that has got to be done on an ongoing basis. And, in fact, Congress should expect future administrations to conduct comprehensive Nuclear Posture Reviews that address those questions.

And we can't say that, because the world is going to change, therefore we are going to wait until the world stabilizes and stops changing in order to make the necessary investments in our nuclear weapons infrastructure and delivery systems.

The figures that you cited for the future SSBN, the *Ohio*-class replacement, would be consistent—although they are very rough estimates at this point, would be consistent with something that—not 10-year, not 20-year, not 30-year, but over even a longer period of time. And the fact is that the cost of these systems are significant.

The requirement to provide effective deterrence and to have stability is critical to this country. And these investments, while we are looking at every possible means to save costs, these investments are essential enough that they deserve—in my view, they deserve to get serious consideration. And if we can have a stable approach with bipartisan political support over time for a level of investment, we would do the right thing by not just this administration, but by future administrations as well.

Ms. SANCHEZ. General.

General KEHLER. If I may add, I completely agree that our force structure and our force posture need to be strategy-based. And we would argue that every single time the question is asked.

Here is what we know: what we know is that, at present, we are still looking to sustain our current triad of strategic forces. Even as we are looking at the appropriate mixture in there, both to, within the limits of the New START, to sustain our military effectiveness, but also to see if we can get some fiscal efficiency out of doing that.

We know that the sustainment programs that are under way for those three legs will take those forces to a certain point in time. This gets back to your question about decision points. What we do know is that, as far as we can see into the future, the need for a sea-based leg and the attributes that it brings is going to remain.

And so, the current *Ohio* submarine has a finite life. We don't know exactly what year that is. The Navy probably can't draw a specific bright line on the chart and say it is that year. But what we know is that risk will go up as life increases. And so there will have to be a replacement in place at some time, we think in the late 2020s or so.

That brings it to today to begin research and development, given acquisition lead times. So, in my view, it is not premature to go forward with research and development for a replacement to the *Ohio*-class submarine, a part of our strategic deterrent that we believe is going to be with us for a very, very long time.

That leads to the next one in serial order, which would be the bomber, the B–52s, of course, that have been around since the early 1960s. The Air Force intends to field a new long-range strike platform that will be dual-capable, both conventional- and nuclear-capable.

My view is we should leverage that. That is a wise leverage point for us. That decision point is here now and, again, research and development money is under way.

That leaves the ICBM, and there is not a decision yet about how to go forward. Those analyses of alternatives are under way.

And so I think there are a series of decision points here as we go forward. Some we have reached. Some have crossed the threshold, I think, of needing to have investment made starting today.

And then there is the part about the warheads that we have been discussing here, as well as some of the other pieces that go with this; command and control, intelligence, surveillance, and reconnaissance, other things that make this a credible deterrent.

Ms. SANCHEZ. General, my reason for asking the question was just to put on the record that, in fact, it is fluid and we continue to reassess, and that there are key milestones or break points where we have to make a decision. And that it is a long lead time to get some of this done.

But it is a lot of money that we are talking about also. That is why we need to continually assess it.

And it really leads—I don't know if the other two had any comment on that. But it really leads to my next question about—not my next question, but one that I had in here.

The whole issue of, if we can decide unilaterally that we can reduce the weapons and still be as strong as we need to be. Or if we reach a particular point in time in the near future where we can actually sit down with the Russians and decide to reduce even further, despite or according to or whatever the New START. Would that be a smart investment also to leave those decision points open also?

Dr. MILLER. Ma'am. Let me answer first, and then I know that each of my colleagues is likely to want to add as well.

The Nuclear Posture Review stated that although precise numerical equality or parity is not as important as it might have been during the Cold War, that it was still important to us that Russia join us as we work to further reductions. And indeed, as Under Secretary Tauscher has suggested, our approach is to work towards a proposal that would include strategic, non-strategic, deployed, and non-deployed.

The Deterrence and Defense Posture Review is also seeking to have Russian involvement with respect to transparency, a movement of weapons and reductions as well.

There is one point that is worth parsing on this, and that is, as we look at how to manage the stockpile to support those weapons that are deployed as part of our strategic deterrent, and that are forward-deployed and forward-deployable as well, we do need to take cost into consideration. We need to take reasonable planning for both what we call the technical hedge and the geopolitical hedge into account.

The technical hedge is about being prepared to deal with any problem or technological issue that arises with a warhead or delivery system. And the geopolitical hedge being to be prepared for changes in the environment in the future. And we need to take those into account.

But then we need to, in my view, have a stockpile, a combined stockpile and infrastructure that is able to support those hedges at a reasonable cost. And just by way of example, President George W. Bush reduced the stockpile from 10,000 weapons to 5,000 during his time. It wasn't a negotiated change; it was a very sensible change that allowed the different scaling for future size of the infrastructure and allowed NNSA to plan along the lines that they are now.

So, those changes, with respect to the stockpile ought to be considered in a different light than the changes with respect to deployed strategic or with respect to our forward-deployed or forward-deployable weapons.

Ms. SANCHEZ. Thank you, Dr. Miller.

Anybody else want to chime in?

Secretary TAUSCHER. Well, I will very quickly add that, as Dr. Miller said, when the Nuclear Posture Review was completed, the President directed a review of the nuclear requirements in the post-START environment and objectives to consider for future reductions. And specifically, our goals with New START bilateral negotiations with Russia include reducing non-strategic tactical nuclear weapons and non-deployed nuclear weapons as well as deployed strategic nuclear weapons on ICBMs, SLBMs [submarine-launched ballistic missiles], and nuclear-capable heavy bombers.

When the President wrote in February and certified to the Senate that we would initiate negotiations with the Russian Federation, we also said we would consult with our NATO allies. And that is part of the consultation that you know is going on now.

And Secretary Clinton also made very clear last year that Allies agreed in the NATO new Strategic Concept, which is the previous detailed thought pattern, that any further steps on U.S. nuclear weapons in Europe must take into account the disparity between our stockpiles and the much larger Russian stockpiles of non-strategic nuclear weapons.

So, we have unilateral steps that the previous administration took, bilateral steps that this administration took. We are talking about strategic, non-strategic, deployed, non-deployed. We are talking about consultations with our allies. So, as you can see, this as a very turbulent—not necessarily in a bad way—but lots of activities going on and lots of decision points coming forward based on a lot of consultation and a lot of results in the post-New START implementation phase.

So, I think that this is a very energetic area. Obviously, it is important that we keep in mind the long-term goal of a world without nuclear weapons. But at the same time, what we are specifically talking about today is the investment strategy that gets us a safe and reliable and effective stockpile in the meantime.

Ms. SANCHEZ. Thank you, Mr. Chairman. I will yield back because I know there are a lot of people waiting.

Mr. TURNER. Mr. Franks.

Mr. FRANKS. Well, thank you, Mr. Chairman.

Thank all of you for being here. I want to extend a special thanks to Under Secretary Tauscher for being here. I had the privilege of sitting with her on committees in the past. It is really nice to see you here.

So, Ms. Tauscher, in the short time I have, you know how these things are. I hope you will grant me diplomatic immunity here. But everything I say is in the greatest deference.

Secretary TAUSCHER. Not until I hear the question.

Mr. FRANKS. Okay. All right. Well, here it goes. See, she has gone and done it now.

Ma'am, in your the recent remarks at the Atlantic Council you said the following: "The Obama Administration's approach provided more protection sooner against the existing threat, using proven systems, and at a lower cost than the previous proposal."

Now, I understood that the MDA [Missile Defense Agency] is developing a new interceptor, the SM–3 [Standard Missile-3] IIB for that process, which at this point hasn't been developed yet, and a brand-new satellite system, the Precision Tracking Space System, about which this committee, of course, has already expressed some considerable concerns because of the unproven approach regarding technology.

So, I guess my first diplomatic question is, can you explain the statement "using proven systems" in connection with the EPAA [European Phased Adaptive Approach]? Help me understand your understanding of these two European Phased Adaptive Approach components?

Secretary TAUSCHER. Well, the EPAA is a huge success, Congressman. It is not only on station and working, but it is using a proven system, as you remember from many years of committee testimony.

The EPAA is based on the SM–3 interceptor, which is an over 25-year-old Navy rocket that has been fully tested and tested with great success. It is both a land-based and a sea-based system, as you know—Aegis and Aegis Ashore—and the focus on the "now" distinguishes our approach from the previously proposed system, which focused on a longer-range missile threat that has been slower to develop and a system that is still under testing, which is the ground-based interceptor.

We already have the monitoring on station. So, the EPAA is now actually working. It is now protecting not only our NATO allies, populations, and territories against a proven short-, medium-, and intermediate-range threat, but it also protects American forward-deployed troops.

We also have finished all three negotiations with Poland, Turkey, and Romania. Actually, the Poland and Turkey agreements are in force, and the Romanian agreement is just about to be ratified by their parliament.

So, we have the entire system; it is proposed, it is agreed to by our NATO allies. It is the United States contribution as a national asset to the NATO system. And we are working to NATO-ize the planning and the command and control of that system. So, that is pretty much the difference between what was proposed and what is now actually on station and protecting our NATO allies and forward-based American troops.

Mr. FRANKS. Let me shift gears a little bit. Your legislative affairs staff was asked to provide the committee the basis for the statement "at a lower cost than the previous proposal." When could this committee receive that information?

Secretary TAUSCHER. I didn't understand that you hadn't received it, but I think that we certainly will endeavor to get it to you very quickly. The proposal for the EPAA is one that you have not only passed through this committee, but you have also voted on. So, I am assuming it is something that meets with your approval.

But it is at lower cost than the previous system, not only because the previous system was out into the future, but because we use systems, including Aegis system, that is a multipurpose system. So, it has cost-benefits as opposed to systems that just rely on ground-based interceptors.

Mr. FRANKS. Thank you.

Dr. Miller, I am going to try to get through this one here quickly, I am about running out of time here. Regarding the EPAA, the committee's majority has stated its concerns that, with the current budget environment, it may not be possible to provide to Europe's missile defense through the EPAA and homeland defense in the United States.

Part of this is, of course, understanding the actual cost of the EPAA, which the administration, it appears, has generously offered to Europe free of charge, essentially to be a U.S. contribution to the defense of Europe. At the same time, the administration, the previous majority in the House, and the Senate majority cut funding significantly for the GMD [ground-based midcourse defense] system by $1.6 billion in President Obama's 3 years in office.

When Chairman Langevin and Representative Turner wrote to GAO [Government Accountability Office] and asked for a comprehensive review of the EPAA, the GAO responded, "We found that the DOD has not fully implemented a management process that synchronized EPAA acquisition activities and ensured transparency and accountability. The limited visibility into cost and schedule for the EPAA reflect the oversight challenges with the acquisition of missile defense capabilities that we have previously reported."

Since then, the committee has told us that the EPAA approach and content has matured significantly since this document was developed. So, we have already talked about PTSS [Precision Tracking Space System]. We already talked about the SM–3 IIB missile which, it appears, the 2009 assumptions have been essentially changed dramatically.

So, I guess my question to you, I will throw it out here quickly. Dr. Miller, and to you, Ms. Tauscher, can you provide to this committee by, say, the end of the month, a comprehensive, soup to nuts, whole of Federal Government cost for each phase of the EPAA?

Dr. MILLER. Sir, we have included in the Missile Defense Agency's budget submission the key elements of EPAA in terms of our best estimate over this coming year and over the Future Year Defense Program. One of the issues I think may have possibly confused the GAO is that the EPAA, the European Phased Adaptive Approach, while it includes two fixed sites, the Aegis Ashore sites in Poland and Romania, and includes the fixed radar in Turkey which, as Under Secretary Tauscher noted, are all agreed, relies very heavily on mobile systems.

And these mobile systems will be available globally and on Aegis ships. The SM–3 IA missile that we have in the force today is a proven technology with a very strong record of testing. The TPY–2 [Army Navy/Transportable Radar Surveillance] radar is a proven technology with a very strong record.

The phases of the system were defined by the steps that we intended to take to bring additional capability to bear and, predominantly, defined by the next types of missiles from IA to IB, to IIA to IIB. And so we knew that there was going to be technological growth in the system that would improve those capabilities.

It is also important to understand that the costs of the system are shared. For NATO there is the ALTBMD [Active Layered Theater Ballistic Missile Defense] system for command and control, that is NATO shared costs. For the SM–3 IIA missile, we are codeveloping it with Japan. And so it is true that we are devoting significant resources to Phased Adaptive Approach in Europe. It is also true that the investment in the systems that will help on EPAA will also be valuable for a scenario in Northeast Asia or for a scenario in the Middle East or Southwest Asia.

Finally, very briefly, with respect to your question of the national missile defense, the administration remains fully committed to defending the Nation against limited missile attacks.

Mr. FRANKS. Thank you, Mr. Chairman. Thank you all.

Mr. TURNER. Mr. Langevin.

Mr. LANGEVIN. There we go. Thank you. Again, it is a pleasure to have the panel before us, and especially I want to welcome back Secretary Tauscher.

It is wonderful to see you back here with us as always, and we miss you in the House, of course. But we are certainly glad to have your leadership at State and your guidance, first from this subcommittee, and now in the administration, have been valuable to our Nation. And I just want to thank you for all your work.

And if I could, Madam Secretary, I will start with you. Could you please comment on the status of the implementation of the New START Treaty to date? Can you tell us how much data the two sides have exchanged about each other's nuclear forces? How many on-site inspections has the U.S. performed in Russia?

Can you share any information on what we have learned about Russia's nuclear arsenal as a result of the treaty that we did not know if the treaty were not in force?

Secretary TAUSCHER. Yes. Thank you, Congressman. And it is always my pleasure to be back here.

As you know, we have implemented the treaty and the treaty is, you know, we are doing our exchanges and our inspections. We have had a number of them in a very short term. We have a question right now of, me finding the page that tells me all the numbers, which is right here someplace. But we have a significant record right now in the New START Treaty.

Right now we have, as you know, the New START limit of 700 deployed ICBMs, SLBMs and nuclear-capable bombers will allow the United States to retain their current 14 SSBNs. And we have 56 SLBM launchers. Not deploying SLBMs, but an additional 40 launchers.

So, we have, I think in the last number of months we have had seven or eight exchanges that have brought to us a significant amount of information. As we said repeatedly during the ratification process of START, this is not only about bringing us down to lower levels, but it is also about the fact of access.

If we didn't have the New START Treaty, it was likely that both countries would have reduced weapons, but very unlikely that we would have been able to verify it. So the verification regime that is part of New START and the compliance regime that is part of New START, much of it that is adding technology and new ways for us to improve the accounting rules so that we have much greater assurance that this weapon that we see this time is the weapon that we see the next time.

All of that information is vitally important to the kind of assurance that we get here in the United States about what the Russians are doing, what they get when they come to see us. But I think what is most important, too, is that it is important for the two great nuclear powers to be able to do this so that the world sees what we are doing. So we are able to also reassure everyone else that we have these inspections.

As I said, we have had eight or nine inspections, but back and forth. And I think that we are expecting new inspections.

Do you know what the next date is, by any chance?

Dr. MILLER. I don't have the next date, but I could suggest that we provide the data for the record.

My recollection is that we have conducted 13 and the Russians have conducted 12 inspections. We have done two data exchanges and had two meetings at the Bilateral Consultative Commission. And that because these are occurring almost real time——

Secretary TAUSCHER. That is right.

Dr. MILLER [continuing]. If we could provide something for the record I think it would be——

Mr. LANGEVIN. That would be helpful. Thank you.

[The information referred to can be found in the Appendix on page 127.]

Secretary TAUSCHER. Thank you.

Mr. LANGEVIN. And then let me now open the question up to the panel. The House version of the Fiscal Year 2012 NDAA includes a provision, Section 1055, that would delay force reduction under New START until the Secretaries of Defense and Energy certify that the plan to modernize the nuclear weapons complex and delivery systems is being carried out.

The provision also limits reductions in the stockpile of U.S. warheads held in reserve until several conditions are met. In particular, two new facilities, the Chemistry and Metallurgy Research Replacement [CMRR] nuclear facility and the Uranium Processing Facility [UPF] must be operational, which will not be until at least 2024.

Finally, Section 1055 prevents any unilateral reductions below the limits contained in New START. A Statement of Administration Policy threatened to veto the final bill if it includes this provision. Could you elaborate on how these conditions could prevent the Pentagon from implementing New START?

Dr. MILLER. Thank you, sir. I would be glad to offer some examples. The requirement not to make any reductions until CMRR and UPF are in place, as you noted, would push the timeline for those reductions into the 2020s. The requirement under the New START Treaty is to make all reductions within a 7-year period after the entry into force of the treaty, so that that would become infeasible.

If it is applied only to reductions in the stockpile, if the requirement for CMRR and UPF is interpreted to apply only to making reductions in the nuclear stockpile, what that would then mean is that the administration would be required to sustain a level of the stockpile through to the mid-2020s, irrespective of the requirements for a geopolitical hedge or a technical hedge. And that additional cost to the government, in an era of limited budgets, what that means is that less is going to something else. So maybe less science and technology——

Mr. TURNER. Just a second, please, if I can interrupt for just a moment. The second point that you are making is not a New START Treaty issue, correct?

Dr. MILLER. The second point is not——

Mr. TURNER. I want to make that clear. The language that is actually in that provision clearly limits it to non-deployed. So, it would be the second—that you are talking about, which is not a New START. I think his question was how does it affect our New START compliance, and this really wouldn't.

Dr. MILLER. So, then we focus on the second part. Thank you, Mr. Chairman. The issue with respect to the stockpile is as I said, that the provision would require this administration, the next administration, the administration after that, to sustain the stockpile at the present level at additional cost, and irrespective of the geopolitical and technical requirements.

If that provision had been in place under President George W. Bush, we would have a stockpile of 10,000 instead of 5,000 today. It would be excess to need for national security and it would be something that we, in an era of limited budgets, that we would be wasting resources.

The question of no unilateral reductions under the levels of the New START Treaty, I think is worth considering in two parts.

The first is that if the interpretation is that the United States must maintain precisely no fewer than 1,550 accountable deployed nuclear weapons under the New START Treaty, one gets into the question of, if it makes more sense because of the specifics of how—to take one example, how SSBNs are loaded to have slightly fewer to allow a balance loading of our SSBNs. That is something that would be precluded. So, to be required to hit 1,550 on the nose doesn't necessarily make operational sense.

And the second element, and a critical element for the administration, is that it is going well beyond what the Senate had in the Resolution of Ratification. The Resolution of Ratification said that any militarily significant reductions below New START levels should be—I will paraphrase. I don't have it in front of me. But should be negotiated and brought back for the consent and advice of the Senate.

To understand that requirement, understand that militarily significant changes should come back to the Senate, back to the Con-

gress. But to say that it has to be a specific number exactly, under the treaty can be no more, under this law, can be no less, would tie the hands of the commander and of the President. And to say no reductions, no changes whatsoever will be allowed, those are constitutional issues.

Mr. LANGEVIN. Mr. Chairman, if the rest of the panel could respond in kind for the record if we have time right now.

[The information referred to can be found in the Appendix on page 127.]

Mr. TURNER. That would be great. And we also have a second round if you want to revisit the issue.

Mr. LANGEVIN. Okay.

Mr. TURNER. Mr. Lamborn.

Mr. LAMBORN. All right. Thank you.

Continuing this discussion, you heard the chairman mention Condition 9(B) of the Senate Resolution of Ratification. And do you all agree that the U.S. should go to the point of reconsidering remaining a party to the New START Treaty if indeed we do not have the dollars the President—and this is to the President's credit. He asked for the dollars for modernization in fiscal year 2012 NNSA budget. And I would like all of you to respond to that.

Dr. MILLER. Two parts to the answer, sir.

The first is that we understand the requirement to report if we have less funding than in the Section 1251 as requested in Section 1251 Report. Our interpretation of that has been substantially less. In fiscal year 2011 actually slightly less was appropriated than requested. Our judgment was that a one percent or less change didn't require us to submit the report. The difference we are looking at now in both the House and the Senate appropriations bill, I think, would trigger that, and we would have to examine that question.

We entered into New START Treaty because it was in our national security interest. We have the right to withdraw from that treaty as a country. And, in principle, this is an issue that should be considered whenever the security conditions arise that would require it.

If there is substantially less funding than requested, we will, of course, provide the report to Congress.

General KEHLER. And, sir, I would just add that, understanding what the language requires, I would form my recommendation in this regard, based upon my assessment of whether we could perform the military mission that is being asked of us. And given the certain number of weapons and type of weapons that we have, understanding, again, that there are some trigger conditions here for reporting, I would form my assessment based upon the force that we have and whether we can execute the missions. And as long as we can execute the missions, then my recommendation would be that we would continue to go forward.

Mr. LAMBORN. Are you saying, General, that you would not take into account whether or not dollars were added to our budget for modernization?

General KEHLER. I would most certainly take that into account. But I would be asked to provide a today recommendation, and I would base that recommendation on whether or not we could execute the mission that we were being asked to perform. If a budget

reduction was resulting in some decline in that mission, as we could look to the future, then I would offer my judgment accordingly.

Secretary TAUSCHER. You know, I think that there has been a cojoining of these two issues for quite a long time. And in my opinion, it has been almost a red herring. Who is not for modernization of the forces? The President has made clear he is. The President has put a tremendous amount of increase of budget. He has talked about it for years. So the President has said what he wants to do. He has put the money in the budget. And now it is up to the Congress to provide the money. That is where we seem to be having the problem.

Mr. LAMBORN. That is right. And I said——

Secretary TAUSCHER. Not with the President.

Mr. LAMBORN. No, exactly. And I said, to the President's credit, the House and Senate have not, however, followed up in the current status of both appropriation bills.

Secretary TAUSCHER. That is right. That is right. But the New START negotiations were already something that was considered previous to the end of the START Treaty, which expired in December of 2009. And when we achieved those limits, way before the end of the START Treaty, by the way, subsequently, we had the Moscow Treaty that President Bush came through. And that was a unilateral decision to decrease forces.

General Kehler is really the person with the Strategic Command, and the National Command Authority, and the DOD and the DOE, that are going to look to make sure that he has what he needs. You also have the President and the lab directors that have to sort of view the capability, effectiveness, safety, and reliability of the stockpile every year.

So there are different components here that all add into the question of, does the President, as Commander in Chief, have what he needs in order to not only deter and defend the United States, but to those countries to whom we extend our deterrent, do we have the capability to do that?

And so the decision was made to modernize the NNSA and the force and to make sure that we had at, lower levels, the kind of numbers that were going to be able to be agreed to by General Kehler and certified by the lab directors and to satisfy the President's concern that we have what we need.

And there is a very, you know, significant process to that. It includes the Nuclear Posture Review, as we have discussed. It also includes dealing with our allies on the DDPR. So there are many components to this. It is not just one or the other. It is not just, "if you don't have this, you don't get that."

So I think that you have to look at this in a very holistic way. You have to look at it more than just the simple boiling down of, if you don't have modernization, can you actually keep the New START Treaty? We have agreed to the New START levels. We have done that assuming that we are going to get the funding, assuming that we are going to have modernization, assuming that we are going to have lower levels and that we are going to be able to certify.

But I think that, you know, just saying "if you don't have one, you don't have the other," I think almost misses the point of a very sophisticated strategy that numerous Presidents have been working with that have put us in a position where we do have a very safe and reliable stockpile, one that General Kehler can tell you is going to meet the military requirements.

Mr. LAMBORN. Well, Under Secretary Tauscher, am I wrong in assuming that if we don't have the dollars for modernization, then we can't rely on the lower numbers of weapons that New START calls for?

Secretary TAUSCHER. I don't believe so. I believe that this is not a zero-sum game.

Mr. LAMBORN. We could disarm through attrition, like Tom was saying?

Secretary TAUSCHER. I don't know how you get to that assumption. What I am saying is, everybody is for doing what we have agreed to do. The question is, where do we get the money? The President has made very clear that he wants to have major investments in the NNSA, the stockpile, human capital, and refurbishing the enterprise to make it more responsive to the reality of lower numbers.

And that is what we are going to have. We have not exactly what the President has asked for in the budget, but we are not at zero. This is not, you know, a supertanker where you hit the brakes and you stop on a dime. This is going to take a while for the fact that we don't have this money to affect the system. Will it affect the system? Yes. Will we be able to get what we need? No. Is it wrong to assume that these cuts are fungible and that we can live with them? No.

But at the same time, it is not true that we endanger our ability to go to lower levels tomorrow because we don't have the budget numbers that the Congress is meant to give us and agree with the President's numbers.

Mr. LAMBORN. Okay, we are going to have to continue this discussion, especially after we see what the appropriations process yields. And my very last thing, Under Secretary Tauscher, is, and I will just conclude with this, because we are starting to run out of time. Is this administration contemplating any unilateral cuts or any other further cuts at all in U.S. nuclear warheads, platforms, delivery vehicles, or capability?

Secretary TAUSCHER. Well, as I told you, the President agreed in his letter to Senator Reid and Senator McConnell late last year during the consideration of New START by the Senate in the lame-duck session that, you know, this year we would begin to work with the Russians on deployed, non-deployed, strategic, non-strategic. I have my counterpart in what is called the Ryabkov-Tauscher channel. We have already sat down and started to have conversations with them about the kinds of framework for future reductions, both, as I said, on strategic and non-strategic, deployed and non-deployed. We have had conversations with the P5 [permanent five members of the UN Security Council] on different things, including verification and the new kind of technology and the new science involved in that.

So I don't make the policy. I just go off and do it. But previous administrations have made the decision to do that. I don't know of anything that the President has said where he has said that he is considering unilateral cuts, so I will tell you that my mission is to talk to the Russians and to continue what we did in New START and also to talk in a multilateral range with the P5.

Mr. LAMBORN. Thank you. I yield back.

Mr. TURNER. Mr. Garamendi.

Mr. GARAMENDI. I want to thank all of you for a fascinating discussion about where we are with nuclear security.

Mr. Miller, you dismissed those who said that the numbers are bigger as bad math and faulty assumptions. Could you please be very specific, not now, but in writing, as to the math and the assumptions, so that everybody can get it straight?

Dr. MILLER. Yes, sir. And our first submission is the Section 1251 Report that we provided to Congress with far estimates.

Mr. GARAMENDI. Okay.

Dr. MILLER. So if I can give one quick example, and——

Mr. GARAMENDI. Please. I only have a few moments.

Dr. MILLER. Okay, quick example——

Mr. GARAMENDI. There are assumptions that were made, numbers that were put. You say they are bad math. I assume they are. Just tell me how, okay? Now——

Dr. MILLER. Will do.

Mr. GARAMENDI. Thank you. This discussion is almost occurring in a vacuum. Sequestration is out there. Whether there is sequestration or not, there are very significant cuts being discussed for the military. It is like a stovepipe here. We are only discussing the nuclear security in this context, and there are other things that are going on within the military. And it is, frankly, driving me crazy that all of this happens and we don't know how we are going to put this together and we may have, like, a month and a half to put something together.

The people around this town that think about these things, think tanks from the left and the right, have thought about the nuclear security issue over the years and have made recommendations from the left of about, I don't know, $135 billion of cuts over the next 2 years and, from the right, a little less than $100 billion, exactly $104 billion from the Cato Institute and $139.5 billion from the Sustainable Defense Task Force. That is the left and the right.

How does that figure into what we are doing here? Basically, I heard you say we are tied up by treaties, but apparently within that treaty there are some opportunities. What I am looking at is, I would like to know what is really viable. No cuts at all? Or, if there are going to be cuts in the military, where does this particular portion of the military fit? And what is viable? You know, it ranges from, "okay, we don't need a triad" or "we don't need all of those missiles" or "we don't need all of those new bombers right now." We can wait; we can wait.

At some point, it is going to have to get beyond, "gee, it is going to be terrible if we have to make cuts." We are going to have to say, "here is what can actually happen." And I am waiting for that information. And you have got 1 minute and 53 seconds to share it.

[Laughter.]

Dr. MILLER. Mr. Garamendi, thank you. As I said earlier, the Defense Department is looking at north of $450 billion in cuts over the next decade, and a good fraction of those in the next 5 years.

Nuclear delivery systems, which are funded out of DOD, are not off the table for that discussion. And we are looking hard at what the core requirements are and the timing of those requirements, as well. That is true for each leg of the triad, as it is true across the board. Secretary Panetta has talked about these reductions being hard, but manageable. I can confirm that they are hard, and as I said, no element of the Department of Defense budget is off the table from examination.

Mr. GARAMENDI. And here is my point. And I said this earlier to the chiefs. Terrific. And I know that eventually you will tell us what it is. By my count, we have one month and a few days before December 23rd, at which point we are, by law, to make some decisions. May very well our decision is to not make a decision and we will just change the law, which we could do. But assuming we actually follow the law, we need to make a decision.

So when will you share with us that information? Are we talking about maybe the 22nd of December?

Dr. MILLER. Sir, I think it is fair to say that is a question that is above my pay grade. I will take it back to my bosses.

Mr. GARAMENDI. I took it to your bosses about 3 hours ago. I am taking it to you. I guess I am taking it to the chairman of our committee here, is that at some point along the line, we are going to have to make some tough decisions. And the sooner we have that information, the more thorough the debate will be and, quite possibly, the better the result.

But ignorance is not a good way to proceed. And we are proceeding with a high level of ignorance, despite what you have said. Now, you have all talked about it, but you have not given us one piece of information about what a cut could be in your area, other than it is going to be bad. I will let it go at that.

Mr. TURNER. Dr. Fleming.

Dr. FLEMING. Thank you, Mr. Chairman. And I want to thank the panel today. You all are definitely studied up on the issue, and I appreciate that.

I am going to, we have been talking about math here, and I am going to ask you about a little different math, General Kehler and Mr. Miller. If the Navy and STRATCOM were comfortable with 192 launchers on 12 SSBN(X) submarines based on the assumption that New START levels will be those required in 2027 and beyond, meaning 48 fewer launchers than suggested for the submarine-based deterrent in the original 1251 Plan, what other reductions are needed to the ICBM and bomber legs to comply with the New START limits?

Dr. MILLER. Sir, what we have previously said is that we aimed toward a New START force structure of 240 SLBM launchers, up to 420 ICBMs, and up to 60 bombers. In the context of the budget situation in which we find ourselves, we are looking hard at those numbers again and, in fact, want to be informed by this NPR Implementation Study that is underway.

I think it is worth noting that the number of SLBM launchers that you described would provide a very significant number of warheads that could be deployed and that would allow the SLBM leg to still account for two-thirds of the overall strategic arsenal.

General KEHLER. Sir, I would just add that I think this is another one of those areas where it is helpful to me, anyway, to separate this into two sets of questions. One is, how will we structure today's force to get into the central limits of the New START Treaty? And that is one set of issues that we are working our way through, and that gets to the 240 up to 420 and 60, in terms of the three legs of the triad.

We have been looking very hard, because we are allowed to mix, within the 1,550 deployed warheads that were allowed and the up to 700 operational delivery vehicles that were allowed, we are allowed to mix that force in many, many other ways. And so we have been looking whether or not there are alternative force mixtures that preserve a triad, that keep our military effectiveness, and that maybe are more financially efficient.

So we are looking. That was certainly a baseline that we departed from, but we are looking to see if there are other ways to go at that mixture. The next question then becomes, for questions of modernization, beyond this current force structure, how should we go about looking at follow-ons, the *Ohio* replacement, for example? And we have looked at various numbers of tubes that might be on a replacement.

The requirement from STRATCOM has been, we have looked at both 16 tube variants, we have looked at 20 tube variants. My number-one issue is we must be able to get a replacement platform. And therefore, affordability has to be an issue here. What we don't have to make a decision on today is what the ultimate number of submarines is that we might have to deploy, depending on the world situation that we find as we go to the out-years.

So my view is, I have been comfortable with talking about submarines, like they were talked about in the 1251 Report and elsewhere, that could have 16 tubes, provided we have enough to put to sea to meet our needs, and given that we may make different decisions as we go forward, our successors two or three removed may decide that is not the right number of submarines as we go forward. To me, it has to be survivable. It has to be affordable, because we have to have it.

Dr. FLEMING. All right, let me simplify this a little bit for my understanding and for everyone here. So you are saying that it may be a financially driven decision to go below the understood limits and, in doing so, we can compensate in other areas with other launch devices, other platforms. And are you also saying that over time, in the out-years, we can actually mix that up? That is fluid. We can move back and forth within the total New START limits.

General KEHLER. Yes, sir, that is exactly right. Plus, we are making a big assumption here that the current limits in New START will, in fact, carry beyond the 10-year term of the treaty, plus another 5-year extension. We are beyond that, even, when we are talking about a follow-on submarine platform, for example.

So I think preserving flexibility, preserving our ability to make judgments as we go forward, but committing now to the fact that

we must invest in the research and development, and we must proceed with these modernization efforts at this point in time, with the idea that we can make adjustments as we go to the future, I think, is the most prudent thing for the security of the country.

Dr. FLEMING. Anyone else would like to add to that at all? Just one other quick thing. Well, the full cost of eliminating converting from deployed to non-deployed and converting to non-nuclear status DOD systems is known by the Department at this point?

General KEHLER. The answer is they are not, sir, not to my knowledge. That is something we are still working our way through to include, as you know, in the number of launchers that we count. We talked about, the Under Secretary talked about the two data exchanges we have done with the Russians to date. Our numbers look high, and they look high in some respects because we are still counting what we would term as "phantoms," ICBM silos that have already been deactivated, but still remain technically on the books for us, airplanes that are in the boneyard at Davis-Monthan down in Arizona, that need to come off the books, as well.

Those costs are still being worked. We know we have those costs to bear. The services know they have those costs to bear. And we are working our way through how we will address those, unless there is something more.

Dr. MILLER. General Kehler is exactly right. I would just add that the New START Treaty has more flexible provisions for the elimination or conversion of systems than was the case under the previous START Treaty. And we have asked for estimates from the Air Force and Navy for the alternative approaches, to include the lowest-cost approach, consistent with the treaty, for the elimination of ICBMs, for the elimination of bombers or conversion of bombers, and for the conversion of SLBM tubes, which amounts to taking them off the books.

And I have seen some initial estimates, but we have sent them back for re-estimates, and we are looking to drive those numbers down as low as possible.

Dr. FLEMING. Thank you. I yield back.

Mr. TURNER. Thank you.

Dr. Miller, you had spoken about the provisions in the National Defense Authorization Act, of which some the administration had threatened to veto. And I want to walk through some of those issues, because as you know in the discussion, you know, we believed that we were just codifying the administration's policy, that the administration's stated policy, it would be X, and so we thought we had put it in the legislation.

Now, I understand you not wanting it in legislation, but I am concerned as to why the administration would go to the level of arguing for a veto over what appears to be its own policy. So I thought we could have a discussion on whether or not these issues remain administration policy.

And before I do that, I want to disagree with you a little, for a couple moments on the issue of your interpretation of those provisions. With respect to the provision that we have in the National Defense Authorization Act that ties modernization to reduction, you had said of your concern that it might be an impediment to our

implementation of New START within the requirements of New START.

Well, there is a provision that permits a waiver, and it is a waiver that the Secretary of Defense and the Secretary of Energy may sign. So the administration has the ability to waive that if it saw it as an impediment. So I am not necessarily persuaded by the argument that it would prevent us from complying with New START.

The second thing that you had said is the issue of, you know, what if we had some operational issues that kept us going under the 1,550 and how that would be a concern? The numbers requirement of the legislation that we have in the NDAA says that the President may not retire, dismantle, or eliminate, or prepare to retire, dismantle, or eliminate. Operational issues are not retiring. Operational issues are not dismantling, and they are not eliminating. So the only reductions that we have in here that might be viewed as a restraint are not, certainly, ones that you would run into. It is just operational.

And with respect to the new facilities and the, with respect to the hedge, you know, those are the Chemistry and Metallurgy Research Replacement Facility in New Mexico and the Uranium Processing Facility in Tennessee, having those operational before we do further reductions. And I believe that that has been the administration's policy, that that was an actual need that we had to have those facilities up before further reductions were taken.

But my questions go not to the issues of whether or not we should have this in legislation; I understand you say you would prefer it not. My questions go to, are these things still administration's policy? We have got four of them. The first is, when the administration came forward and requested New START to be ratified, the premise was that the reduction would be taken in concert with modernization, meaning that they could not be separated; that, in fact, modernization had to be done in order to justify the lowered numbers.

Is that still the administration's view? Or does the administration believe that we could just go to this number and modernization is irrelevant to the reductions?

Dr. MILLER. The administration views that both modernization and the New START Treaty remain in the national security interest of the United States.

Mr. TURNER. Great. And that is what we put in the legislation, so we wanted to confirm it was still a policy, since we are facing a veto threat.

Dr. MILLER. Mr. Chairman, let me add. Each of them remains in the national security interest of the United States. Both of them together are strongly preferred. And so you say, what happens if we have somewhat less than the requested funding under the 1251 Report? Does that mean we should withdraw from the New START Treaty? I think the answer is——

Mr. TURNER. And that wasn't my question, but go ahead and answer that one.

Dr. MILLER. Well, the answer is, we are going to be obliged to provide a report on that question, but the New START Treaty has benefits to the United States, including the 18 on-site inspections per year, the exchange of data, and the ability to have a much bet-

ter understanding of Russian strategic forces than otherwise would. So withdrawing from it would not be without other costs.

Mr. TURNER. The next issue goes to the issue of reducing without the hedge. You know, our provision is that the Chemistry and Metallurgy Research Facility in New Mexico, Uranium Processing Facility in Tennessee, that they need to be operational. President Obama's National Security Advisor, Tom Donilon, said at the Carnegie Endowment earlier this year, in fact, "If Congress approves the President's funding program for the nuclear complex, it allows us to reduce the size of our nuclear stockpile because we will be able to maintain a robust hedge against technical problems with a much smaller reserve force."

We had put in the legislation that these two facilities had to be operational. Obviously, if they are not operational, they are not contributing to the hedge. Is it now the administration's policy that they are not necessary for further reductions in the hedge?

Dr. MILLER. The administration continues to strongly support the CMRR and UPF facilities. The issue on the provision, and it is in, I believe it is 1055, says that the Secretary of Defense, Secretary of Energy may not retire, dismantle, or eliminate, or prepare to retire, dismantle, or eliminate any deployed strategic or non-strategic nuclear weapon until the date that is 90 days after certification that these facilities are fully operational. And so——

Mr. TURNER. I will just read it. I mean, do you have it front of you? It says Department is to retire, dismantle, or eliminate or prepare to retire, dismantle, or eliminate any non-deployed strategic or non-strategic weapon until the date that is 90 days after the date.

Dr. MILLER. Mr. Chairman, is a B–52 bomber that is no longer operational considered in this category?

Mr. TURNER. The reason I am reading it is because your answer used the word "deployed," and this clearly does not say "deployed." I am not going to argue over what deployed and non-deployed means, other than to reflect that the language of the legislation is non-deployed.

Dr. MILLER. So there is a semantic question that we would need to clarify, and this is a relatively small issue, is whether the intent of the House is to have this apply to nuclear warheads only or to delivery systems. Frankly, I have heard both of those explanations. That is the relatively smaller issue.

Well, it is important, but I would hope that the intent was nuclear warhead. If that is the case, then what it says is that, given the timelines with—if we have received full funding—the timelines for making CMRR and UPF operational, it means that there may be no retirement, dismantlement, or elimination of non-deployed weapons until the mid-2020s.

Is that something that makes sense for the country? My guess is, my strong view, actually, is that the answer is likely to be no.

Mr. TURNER. Well, and I believe that that actually had reflected the administration's policy, but with respect to the issue of clarifications, considering that this is going into conference, I would love to work with you on any language that you think would be necessary to clarify that for you so we don't have language that is confusing.

Dr. MILLER. Sir, could I just be clear. The policy is to look to shift from a reliance on non-deployed warheads to a reliance on infrastructure over time. That is indeed the objective and policy of the administration.

Mr. TURNER. And that is those two facilities——

Dr. MILLER. And, indeed, it involves more than that, but the policy is not to avoid dismantling, eliminating, or preparing to retire, dismantle, or eliminate any non-deployed weapon until the time that all those investments are complete. Indeed, the cost, that would be, I guess, and to use a term usually used elsewhere, that would be a cost-imposing strategy on the NNSA.

Mr. D'AGOSTINO. Yes, if I could just jump in on that just a little bit. Clearly, you know, the idea of including the word "non-deployed" in a sentence, or even preparing to retire, dismantle, or eliminate, the reality is, we move these systems with the Defense Department from a non-deployed to deployed status all the time. We are constantly doing surveillance, which includes destructive surveillance, which actually means, in effect, we would be coming back to the Secretaries—both Secretaries with a bit of a bureaucratic, I would say ponderous bureaucratic process that would slow down and render some significant inefficiencies, in my line of work. I won't speak for how it would impact the Defense Department on their delivery systems.

So I don't particularly care for the language at all, because it adds a level of bureaucracy that I believe is unnecessary, because we have proven our ability to work with the Defense Department on moving systems back and forth in order to meet the national needs at the particular time. And I just think it is extra work. It is unnecessary. As Jim was talking about——

Mr. TURNER. And you don't think the exception that says activities determined by the Secretary of Defense "be necessary to ensure the continued safety, security, and reliability" is a big enough umbrella of your activities that exempt, because, I mean, clearly, the intent is, you know, it is not "dismantle" meaning we are cleaning. It is "dismantle" meaning it is not being put back together. Or "eliminate," that is pretty clear. "Retire," I think that is pretty clear. I would be glad to work with you on language for that exception, but I certainly understand——

Mr. D'AGOSTINO. Yes, sir.

Mr. TURNER. Okay, thank you.

Dr. Miller, we had a conversation on the telephone today, which I greatly appreciated, concerning the issue of nuclear weapons targeting and doctrine and the ongoing review. We referenced as a great starting point that fact that you were a professional staffer on this committee and participated in the 1990s when those type of activities were ongoing. And the expectation on behalf of the committee that your knowledge of that exchange between staff and the administration is expected would be the benchmark point for us looking to a satisfactory exchange between the administration and this committee.

I know we have the letter from Secretary Panetta indicating that there will be an exchange between the committee. I note your taking back to the administration our benchmarking of your participation when you were a staff member as being a level of exchange

that we are expecting, now that you are in the administration. So we appreciate your level of experience and expertise that you get to take to that discussion. And I understand from your answer that you are going to be endeavoring to get us clarification of that.

Dr. MILLER. Mr. Chairman, I will ask for a clarification. I will say that the language of the letter speaks for itself, in a sense, in terms of what the Secretary has proposed we do. And I will ask his guidance on the additional questions that you have asked.

Mr. TURNER. Great. I appreciate that. Because, again, back to our conversation on the phone, reading this letter in light of our discussion of what your experience was, we don't have confidence that it is the same, and we would want the treatment of the committee to be the same with you in the administration, as it was when you were with the committee. Thank you.

Under Secretary Tauscher, you and I had conversations before about the NATO Deterrence and Defense Posture Review. And I have appreciated both the exchange that we have had and your expertise. I am, as you know, very concerned on the issue of what will count as a reduction. You have, in your answer here today, I think very clearly stated that you look to reductions, if there were to be reductions, with respect to NATO's nuclear posture or European—U.S. nuclear weapons in Europe, that you would see that as tied to a response from Russia, and I would like some assurances from you that you agree that mere geographic relocation of Russian tactical nuclear weapons is neither a reduction, nor a significant Russian action for addressing the threat to Europe posed by Russia's thousands of tactical nuclear weapons.

As I indicated, the NATO Parliamentary Assembly said in its resolution, which we will provide you a copy of, that they do not view mere geographic relocation as a reduction. And I would like to know if you agree.

Secretary TAUSCHER. I do.

Mr. TURNER. Thank you.

Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

The only question I had is to allow the other members of the panel to respond to my question, with respect to Section 1055, and how those conditions could prevent the Pentagon from implementing New START. So, Secretary Tauscher, I know that you have to leave. If you want to respond to me in writing, that is fine. If the rest of the panel, if you could just take that right now, that would be helpful.

General KEHLER. Sir, again, I would just say, from my perspective, the issue of whether or not the funding would be sufficient to cause us to invoke a withdrawal from the treaty. My view is that it is about risk.

And my perspective here is that, ultimately, I would be asked, and I believe that I should provide, my military advice on whether or not the force, as it is constituted, could accomplish the job at hand. But there are some risk points along the way.

And as we began to get to some of those risk points, for example, we have issues today about, with the current level of funding that has been allowed, through the congressional marks, whether our air-delivered weapons can go through life extension. I think that is

a risk point that we would have to assess, and I think it would go on from there. So that would be my comment.

Mr. LANGEVIN. Thank you.

Secretary.

Mr. D'AGOSTINO. In our role in supporting the warfighter and supporting General Kehler's organization, you know, that is ultimately the job that I have in supporting the Defense Department is to make sure they have the systems they need.

I would be concerned, though, clearly it is not my area of work, but I would be concerned that as things change, as concerns with our ability, essentially, maybe to extend the life of a particular system, comes up and it becomes an issue. The Defense Department would be in a position to say "how do I change the mix of warheads necessary in order to keep the nation safe" and made our commitments to our allies as well. And, therefore, this provision, in my view, would say what, we can't do that, until after these two facilities are completed.

I don't believe that is the intent. Ultimately it might not be the intent of the committee, but it does place a restriction on our ability, and the warfighter's ability, to say "this is the kind of mix that you should might recommend to the President," and then ultimately my ability to support that.

General KEHLER. Sir, if I could just add one more piece to this, there are really two fundamental things that I am asked to do on a recurring basis. One is I am asked to comment on my view of the ability of the stockpile and the safety, security, and effectiveness of the stockpile. And so every year I provide my assessment of the stockpile.

That is one place where I can make my viewpoints known, as the combatant commander, for the investment that we make in the stockpile, not only in the life extension programs, but in things like surveillance and basic science and the other things that go with that.

So in one place, I would have an opportunity to comment on what I thought funding was doing to the overall health of the stockpile. In the other place, I have a commitment, essentially, to be able to tell the President whether or not the force as it is currently constituted is capable of performing the fundamental mission here.

And the fundamental mission is to deter nuclear attack on the U.S. and our allies, assure our allies, et cetera. And so I am constantly looking at whether or not the force, as it is constituted, is capable of performing the job that we are being asked to do. As we would get to these decision points, where funding would begin to impact that, I am obligated to stand up at that point and say whether or not I think that either the stockpile is impacted or, overall, whether we are able to perform the mission that we can. And I would be prepared to do that.

Mr. LANGEVIN. Okay. Good.

Secretary Tauscher, did you have anything to add or——

Secretary TAUSCHER. Yes, I will just, you know, I will just agree with my colleagues. You know, I think that there is the issue of funding for the complex modernization and then the limitations on

nuclear forces contained in the House bill, I think that there are some things that I just want to make very clear.

The first is that this administration is following through on all of its commitments on modernization. And modernization, as I said earlier, is in the same room with the New START Treaty and what the New START Treaty reductions will do. But they are linked tangentially. They are not specifically linked. It is not one for one.

We didn't go into the New START Treaty saying that, unless we got this money, we would not go forward with these reductions. The reductions are based on the Nuclear Posture Review. But the President made clear that he believed that these reductions are in the national security interest of the country, and that these investments are in the national security interest of the country.

So, you know, they are related, but they are not a quid pro quo. One is not about the other. And I think my colleagues have tried to make that as clear as possible. The reductions that we went about in the New START Treaty were based on analysis conducted under the Nuclear Posture Review.

And during that same review, it was very clear that we needed to make investments in the modernization of the complex, in the human capital, building facilities and making it a much more capabilities-based environment than just dealing with this number, that number. So I think it is a complicated situation.

But, you know, General Kehler's responsibilities, Dr. Miller's, Administrator D'Agostino's are different than mine. We all have specific responsibilities, but they are all related. But, you know, it is really up to General Kehler on the annual basis to make decisions about the safety, the reliability, and the effectiveness of the stockpile for the military requirements.

Mr. LANGEVIN. Very good.

General KEHLER. And if I could just pile on with one more comment, there are two questions here. One question is do we need to modernize? Do we need to invest? And the answer from my perspective is, unequivocally, yes. Yes, we do.

The other question is, what happens if we don't? And at that point in time, that is a different set of considerations that we have to work our way through. And from my perspective, that is when we get into the military judgment about our ability to do the job.

Mr. LANGEVIN. Good. I share many of your concerns, and you know, I do have deep concern about Section 1055 and what do we do in terms of preventing the Pentagon from implementing New START.

So as you think about it, if there are other things that you would like to add, and you can forward to me and to the committee in writing, that would be helpful so that we have full transparency into the implications of that section.

[The information referred to can be found in the Appendix on page 127.]

Mr. LANGEVIN. With that, my questions have ended.

And, Mr. Chairman, I yield back.

Mr. TURNER. Thank you, Mr. Langevin. This has been a very long hearing, and I have two more questions, but my two questions are for Dr. Miller and for General Kehler. So I am going to offer to Mr. D'Agostino and to Under Secretary Tauscher, if they would

like to be excused, you are excused. And if you want to stay to watch and observe, you certainly can. But I wanted to let you know that the questions for you are done.

Secretary TAUSCHER. Thank you, Mr. Chairman. And please, you know, if you are keeping them behind in class, let me tell you how hard they work.

Mr. TURNER. Very good. Well, I wanted to say that the reason why this hearing has been so long is because you all are working so hard. The amount of work that you have, the review you are undertaking, everything that you are doing is really the subject matter of this.

I have only two more questions, and they really are for the record. But, I do certainly appreciate Under Secretary Tauscher and Mr. D'Agostino's participation in the hearing.

Turning to Dr. Miller, nuclear force structure requirements are developed based upon high-level guidance on nuclear targeting strategy and nuclear weapons employment issued by the White House.

DOD has informed this committee that a 90-day Nuclear Posture Review Implementation Study is currently underway to review this guidance and consider options for changes. We understand the President has issued terms of reference for this study in PPD [Presidential Policy Directive] 11.

Dr. Miller, what are the terms of reference for this study? I have a four-part question. What are the terms of reference for this study? Briefly, what targeting, employment, and force structure options have been considered as a part of this review?

And how might those different options affect the size and structure of a nuclear force structure? Also, will you provide us with a copy of the PPD–11, and any other terms of reference or study charge? Also, please provide us with a list of the agencies and officials who are directly involved in the study. Please provide these to the committee within the next 7 days.

Based upon statements we see in the Nuclear Posture Review and those made by senior administration officials, including the National Security Advisor Tom Donilon, and White House Coordinator for Arms Control and Weapons of Mass Destruction Gary Samore in this study, is this study only considering what further reductions can be made?

Or are the only possible outcomes those that enable and justify further reductions? Is it possible that the study's analysis will show that the current U.S. stockpile and force structure is exactly right? Or even inadequate, especially in view of the nuclear modernization programs in Russia and China? And how is a potential failure to fund the modernization plan in Section 1251 Report being factored into the options considered as part of the NPR Implementation Study? If Congress doesn't fully fund the modernization plan, does this limit what options on the table are possible?

To give you a recap, the first one was, briefly, what targeting, employment, and force structure options are being considered as part of this review and the documents that we requested, including the PPD 11.

[The committee notes that the administration did not provide a copy of PPD–11 or a summary of that document, as had been repeatedly requested.]

Dr. MILLER. Mr. Chairman, I assume by the length of that list that you have written it down. Many of the questions that you ask go to the White House, and not to the Department of Defense. I would propose to pass them along.

But I can say about the——

Mr. TURNER. I am sorry. Before we go on, you are involved in this, are you not?

Dr. MILLER. I am.

Mr. TURNER. So you would have to be qualified to answer the questions. I mean, I didn't ask a policy question of what is the conclusion. I asked the question of what is being considered.

Dr. MILLER. The question of what is being considered under presidentially directed review, in my estimation, comes under the purview of the White House to respond to, not under the purview of the Department of Defense to respond to. So what I will be happy to do is to take that question to the White House.

Mr. TURNER. But you are knowledgeable of these answers?

Dr. MILLER. I am.

Mr. TURNER. And you would be capable of answering them? Okay.

Dr. MILLER. I would be capable of answering them to the best of my ability. What I would suggest is that you've asked for a copy of the directive, you have asked for a number of other things. That I would take that back to the National Security Staff.

Mr. TURNER. I understand your answer.

General Kehler, you have previously warned against cutting the budget or size of our nuclear forces too deeply, resulting in what you called a "hollow force."

Will you please explain what you mean by a "hollow force"? What are the risks of a hollow force to readiness, morale, safety, security, and critical skill retention in the nuclear components of the military for the three legs of the triad? What are the break points or red lines in the size of the force that would result in a "hollow force"?

And what analysis has been done to examine these questions and anything that you would be able to share with us? And, you know, for example, how would cutting a whole wing of ICBMs, 150 missiles in total, affect nuclear weapons targeting?

And have you seen any calls for or desire for changing the requirement of continuous at-sea deterrence, the number of ships required to keep that continuous presence in both the Atlantic and the Pacific?

General.

General KEHLER. Sir, let me start with the question about the "hollow force." It is a term, as I think you know, that is being used again extensively across the Department of Defense from my colleagues, the other combatant commanders, from the service chiefs, all with a cautionary note from things that we have seen in our past.

Very simply, what I would say is that "hollow force" is one, in my definition now, I don't know that there is a formal definition

for "hollow force," but it is one that gives the appearance of being able to do the job, but doesn't have the capability to do it.

And I think you can have a "hollow force" in a lot of ways. You can have a "hollow force" because you are not properly organized, because you are not properly trained, because you are not properly equipped, because you are not properly sustained, because you don't have the number of qualified people that it takes in order to provide an enterprise that is a complex, experienced-based enterprise, like the nuclear enterprise.

You can have a "hollow force" regardless of the size of the force. You can have a large force that is a "hollow force"—my opinion, again, sir—you can have a small force that is a "hollow force." And so when I have referred to the potential here for a "hollow force" in the nuclear force, I am sounding the same cautionary note that my colleagues are sounding about the conventional forces.

We can find ourselves in a position here, if we are not careful, where either through our sustainment efforts or lack thereof, or other elements here, that we can find ourselves in a place where we have a hollow nuclear force.

I will tell you that my experience here is that, four or so years ago, some parts of our nuclear force, I think we came to the brink of, potentially, a "hollow force." I think we discovered that we had some issues in our nuclear enterprise because of lack of sustainment funding.

I think we found that there were some issues in our nuclear enterprise because lack of experience. I think we found that there were some issues in our nuclear enterprise because we were so committed to the wars that we had in the Middle East and Southwest Asia that we found that, perhaps at some level, we had taken our eye from some of the most critical pieces of what it takes to have perfection as the standard.

So in my view, those are the cautions we need to make sure that we are looking at as we go forward. Where the mixture of forces that we are looking at, inside New START limits, at this point in time, no decisions have been made about what that ultimate force will look like. But we are looking at various alternatives here.

Are there better ways than were described in the 1251 Report to get to the balancing that is going to be required, and that still allows us to sustain properly while it allows us, perhaps, to be more fiscally efficient? Those are the issues that we are going to continue to look at.

And I must say that I would want to make it clear from my perspective, anyway, that in these budget discussions we have been having, the nuclear deterrent force has not been immune from the conversations that we have been having, nor should they have been immune.

And I think what we are looking at today and what we would look at if sequestration occurs are two different things. I think the current Secretary, the previous Secretary, both said everything is on the table. If sequestration occurs, I think everything, certainly in my world, is back on the table, while we are trying to balance other things as well: space, cyber and the other things that I am responsible for.

So, again, my caution has been that if we are looking at alternative force mixtures, that we are mindful of all of the pieces that I believe must be in place as we go forward so that we do not result in a hollow force.

One of those pieces, I believe, is professional expertise and professional experience and making sure that as we go forward to come up with balanced triads—and, by the way, I believe at this point in time, certainly, a triad is still the right way to go—that we do that with the thought in mind that we would be careful that we don't have that as a "hollow force" as we go forward.

You asked about force posture as well, and so just let me add one other thing about force posture. We both size and posture our force today based upon the job that we have to perform, recognizing that the force that we give to the President has to be able to do a number of things.

One thing it has to be able to do is provide day-to-day deterrence and assurance. Another thing it has to be able to do is respond to surprise. Another thing it has to be able to do is respond in a crisis so that we provide stability in a crisis. And another thing it has to be able to do is get larger within the treaty limit so that we can grow that force up to the treaty limits, or close to those limits if, in fact, the operational need dictates that in a deep crisis or, perhaps, if we were engaged in some kind of a world situation that required that.

That means that we maintain a portion of our force in a ready-to-use posture on a day-to-day basis. I believe that is an appropriate posture today, and that is certainly an element of that as the at-sea survivable SSBNs, which I think is a critical piece of our posture. If that helps.

Mr. TURNER. Thank you, General.

In concluding, I wanted to say to Dr. Miller and to General Kehler, we greatly appreciate not only your time in working with this committee and your commitment to a strong deterrent, which is, of course, evidenced in your questions, but also the fact that you guys are the experts.

Thank you for being dedicated to this topic because we rely on your expertise so greatly. And when you come before Congress, you help us learn so that we can be a very good partner with you. So thank you again.

And with that, we will be adjourned.

[Whereupon, at 6:07 p.m., the subcommittee was adjourned.]

A P P E N D I X

November 2, 2011

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

NOVEMBER 2, 2011

Opening Remarks – As Prepared for Delivery

Honorable Michael R. Turner
Chairman, Subcommittee on Strategic Forces
House Armed Services Committee

Hearing on "The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture"

November 2, 2011

Good Afternoon. I welcome everyone to today's hearing on "The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture." We have here today an all-star panel of government witnesses. While they need no introduction to the members of the subcommittee, let me do so anyway for those who are joining us in the audience and on CSPAN:

- The Honorable James N. Miller
  Principal Deputy Under Secretary of Defense for Policy
  U.S. Department of Defense

- General C. Robert Kehler, USAF
  Commander
  U. S. Strategic Command

- The Honorable Ellen O. Tauscher
  Under Secretary of State for Arms Control and International Security
  U.S. Department of State

- The Honorable Thomas P. D'Agostino
  Administrator, National Nuclear Security Administration
  U.S. Department of Energy

With introductions complete, on to the focus of today's hearing. The administration has undertaken a series of ambitious "projects" regarding U.S. nuclear policy and posture, and the Congress has a significant role to play here as a co-equal branch of government entrusted by Article I, Section 8 of the Constitution with the responsibility to "raise and support

armies…provide and maintain a Navy…" and, under Article I, Section 9, to pay for those actions of the government Congress deems prudent.

Among these "projects" are:

- U.S. nuclear force reductions under the New START Treaty and the associated Section 1251 plan, which provides for the modernization of the U.S. nuclear deterrent, including the triad of nuclear delivery systems, nuclear warheads, and the infrastructure that supports them;

- the so-called Nuclear Posture Review (NPR) Implementation Study, or "mini-NPR", which we understand is intended to provide the President with options for further reductions in U.S. nuclear forces; and

- NATO's Deterrence and Defense Posture Review, or DDPR, which will likely make recommendations regarding U.S. nuclear weapons in Europe.

As the witnesses know, the House of Representatives, in the FY12 National Defense Authorization Act (NDAA), exercised its constitutional responsibilities for supporting the Armed Forces—and stewardship of taxpayer resources—to pass a variety of provisions related to these administration projects. In reviewing Dr. Miller's written testimony, I see that he is prepared to discuss these NDAA provisions in detail, and I look forward to that.

Regarding the modernization program that is at the heart of the agreement that led to ratification of the New START Treaty, let me quote from Secretary Gates in testimony before the Armed Services Committee last June:

> "Frankly, and just basically realistically, I see this treaty as a vehicle to finally be able to get what we need in the way of modernization that we have been unable to get otherwise."

Those are powerful words, and they effectively show what I think all of the witnesses understand: that New START and nuclear modernization are a package deal. Indeed, the New START Resolution of Ratification passed by the Senate makes it clear that, in the absence of full funding for the

modernization program, the President needs to explain to the Congress whether it is still in the interests of the United States to remain a party to the treaty. I quote from condition nine of the resolution:

> "If appropriations are enacted that fail to meet the resource requirements set forth in the President's 10 year [Section 1251] plan...the President shall submit to Congress...a report detailing...whether and why, in the changed circumstances brought about by the resource shortfall, it remains in the national interest of the United States to remain a Party to the New START Treaty."

I am pleased that the President followed through on his commitment to request funds for the modernization of the nuclear deterrent pursuant to his revised Section 1251 plan. I am, however, concerned that the administration did not request an anomaly for the nuclear modernization program for the first continuing resolution that expires on the 18th of this month. And as we are now heading towards a second CR, possibly until the end of the year, it will be telling to me whether the administration requests an anomaly for NNSA Weapons Activities this time around.

Likewise, I am deeply troubled that your written testimony for today, Mr. D'Agostino, was watered down by the White House Office of Management and Budget (OMB) from its initially strong statement of complete support for the President's full budget request for Weapons Activities, to a tepid statement of support for some level of modernization funding. One would think it would be relatively easy for administration officials to state support for the President's full budget request...but, apparently not. General Kehler, I understand you have been working with DOD and OMB to finalize a letter regarding proposed cuts to Weapons Activities. I wanted to express my interest in hearing directly from you and Admiral Winnefeld, the senior military leadership for nuclear weapons, on this issue.

I am not certain why the OMB cannot support the President's budget request for FY12, but I intend to ask each of the witnesses whether they will recommend to the President:

1. an anomaly for NNSA in the event of another CR; and
2. the continued funding of the nuclear modernization program in FY13, pursuant to the current Section 1251 plan.

The answer to the second question should be an easy "Yes," because, as the witnesses know, in a letter to several Senators in December of last year—while working to secure ratification of the New START Treaty—the President pledged to support the nuclear modernization program for as long as he is in office.

I am, however, pleased that the Department of Defense is working hard to secure this funding. Of course, a lot of this funding is the Department of Defense's own money. As this "Memorandum of Agreement between the Department of Defense and the Department of Energy Concerning Modernization of the U.S. Nuclear Infrastructure" makes clear, in May 2010 DOD committed to invest $5.7 billion of its own budget authority in NNSA's modernization program, with an additional $2.6 billion promised since then. These funds must go to that purpose and not other parochial purposes, like water projects. This document is stamped "For Official Use Only," and I therefore hesitate to make it a part of the unclassified record of this hearing. Dr. Miller and Mr. D'Agostino, I ask that your staff work with the committee staff to determine what on this document is sensitive, and redact those parts such that a fully unclassified version may be made, without objection, a part of the record.

Regarding the NPR Implementation Study, I am anxious to learn the process being followed for the study and the policy considerations and force structure options that are under review. While I am aware that many previous administrations have put their imprint on these matters, I am not aware of any previous administration that has stated the answer to its review before conducting it. In this case, the pre-determined answer appears to be that further reductions must be made. Let's look at the record of statements from administration officials about this study:

- from the 2010 Nuclear Posture Review – "The President has directed a review of potential future reductions in U.S. nuclear weapons below New START levels";

- President Obama's National Security Advisor, Tom Donilon, at the Carnegie Endowment in March of this year – "We're making preparations for the next round of nuclear reductions"; and

- Gary Samore, the White House coordinator for Arms Control and WMD Terrorism in an interview in May – "We'll need to do a

> strategic review of what our force requirements are and then, based on that, the president will have options available for additional reductions…there may be parallel steps that both sides could take or even unilateral steps the U.S. could take."

Let me say that again, "Unilateral steps the U.S. could take." I am curious how to square this statement from a senior White House official with that of Secretary Panetta, who said the following at our Oct 13 committee hearing:

> "With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path."

I agree with Secretary Panetta, partially because I have yet to see any dividends from the unilateral steps we took in abandoning, via the NPR, the submarine-launched nuclear cruise missile capability or the multiple warhead ICBM capability.

Of course, all of this is taking place when the ink on the New START Treaty is barely dry. And when data exchanges with the Russian Federation reveal that Russia has actually increased its deployed nuclear forces since the treaty entered into force.

What's more, witness testimony before this subcommittee on October 14th from Dr. Mark Schnieder, a member of the New START Treaty negotiating team, and Mr. Richard Fisher, respectively, made clear that, and I quote: "Russia is modernizing every leg of its nuclear triad with new, more advanced systems" and "China is steadily increasing the numbers and capabilities of the ballistic missiles it deploys" and is "actively working to develop a submarine-based nuclear deterrent force, something it has never had." Yet, the Administration's reviews are all being done to support further U.S. reductions. This is concerning.

Lastly, there is the NATO Deterrence and Defense Posture Review that is being discussed with our allies in Europe. Recently, as the Chairman of the United States Delegation to the NATO Parliamentary Assembly, I was able to discuss this issue with our allies in a meeting of the Parliamentary Assembly in Bucharest. It was clear that many of our allies were deeply concerned with the direction that some are trying to take in this review.

For example, some NATO members have suggested that geographic relocation would be a serious step the Russians could take to address the thousands of tactical nuclear weapons they have deployed on our allies' borders. Of course, mere relocation of Russian nuclear weapons to some point farther east is not a serious step and is certainly no reduction in their disproportionately large stockpile of tactical nuclear weapons.

That is why the Defense and Security Committee of the Parliamentary Assembly adopted, unanimously, my proposal to make clear that geographic relocation shall not be considered a reduction in Russian arms. I note that even the Russian delegation did not object to my proposal. I look forward to learning more about the DDPR from our witnesses.

Finally, I am also concerned that the Administration may be seeking to amend the NATO-Russia Council Charter to create guarantees regarding missile defense. That has no support here and should be a non-starter.

This is a very important hearing, and I want to reiterate my thanks to each of the witnesses for appearing.

Opening Statement of Ranking Member Loretta Sanchez
Subcommittee on Strategic Forces,
House Committee on Armed Services

Hearing on
The Current Status and Future Direction
for U.S. Nuclear Weapons Policy and Posture

November 2, 2011

I would like to join Chairman Turner in welcoming Dr. Miller, General Kehler, Under Secretary Tauscher, and Administrator D'Agostino *[note: In addition to Under Secretary Tauscher, Dr. Miller also has ties to HASC, having served as a Democratic HASC staffer several years ago].*

I look forward to hearing about:

(1) Opportunities and progress in moving beyond a Cold War arsenal

(2) What our requirements are and how we will implement the policies and vision outlined in the Nuclear Posture Review, including how we maintain a strong and reliable deterrent at lower levels, what kind of arsenal we need to address current and foreseeable threats, and how we do this in a fiscally responsible manner, and

(3) I would like to comment on the controversial NDAA provisions contained in our bill.

First, I am pleased that the President is leading much-needed efforts to reduce the dangers posed by nuclear weapons in a post-Cold War era while maintaining a safe, secure and reliable arsenal.

We must move beyond policies and force structure derived from Cold War-era requirements, and shift to a deterrent that protects us from the most pressing threats we face today.

President Obama noted in his Palm Sunday speech in Prague in 2009, "The existence of thousands of nuclear weapons is the most dangerous legacy of the Cold War."

Even with the considerable reductions of the past decades, it is important to remember that the United States and Russia still maintain thousands of nuclear weapons -- over 95% of the nuclear weapons worldwide -- and much progress remains necessary.

In 2009, the National Defense Authorization Act-mandated independent Commission on the Strategic Posture of the United States, led by Secretaries William Perry and James Schlesinger, concluded that "This is a moment of opportunity to revise and renew U.S. nuclear strategy, but also a moment of urgency." They noted "The nuclear deterrent of the United States need not play anything like the central role that it did for decades in U.S. military policy and national security strategy. But it remains crucial for some important problems."

And in their 2007 Wall Street Journal op-ed, *A World Free of Nuclear Weapons*, Secretaries Henry Kissinger, George Schultz, William Perry and Senator Sam Nunn recommended "a series of agreed and urgent steps that would lay the groundwork for a world free of the nuclear threat." These included among others:

- "Changing the Cold War posture of deployed nuclear weapons to (...) reduce the danger of an accidental or unauthorized use of a nuclear weapon."
- "Continuing to reduce substantially the size of nuclear forces in all states that possess them."
- "Eliminating short-range nuclear weapons designed to be forward-deployed."
- And "Initiating a bipartisan process (...) to achieve ratification of the Comprehensive Test Ban Treaty"

Second, we must take a hard look at what we need to meet our national and our allies' deterrence requirements in light of current and new threats.

We also have the responsibility to bear in mind the ramifications of the current economic crisis and that we must carefully consider what is urgent, what can be delayed, and what is no longer necessary.

Given what the requirements are, we must find ways to make smarter investments. Nuclear weapon operations are no exception.

These are important oversight decisions and weighty responsibilities. I look forward to discussing what the requirements are for our nuclear deterrent, including:

- How do we size our nuclear arsenal to best reflect and address these current threats?

- What further nuclear weapons reductions may be needed as a tool to strengthen U.S. and international security and stability?

- Do we need and can we afford to sustain a triad for the next 70 years, what are the decision points, and what considerations impact this decision now?

- What are the risks and costs of retaining forward-based nuclear weapons in Europe merely as a political symbol if they are no longer a unifying element of NATO and a useful military asset; and are there other ways to maintain a strong nuclear NATO alliance?

Third, our Committee had an engaging and serious debate on the nuclear policy provisions proposed by the Chairman and my Republican colleagues during mark-up of the House-passed National Defense Authorization bill.

There was significant disagreement on these and on the need for legislative action that could delay or block the President's nuclear arms control efforts. These are issues we will have to revisit and address with the Senate as we finalize the bill. I remain concerned about several of these provisions, including their impact on national security, and whether they are constitutional.

Public debate on these issues is important and I look forward to advancing this debate today. Thank you for being here to inform our understanding of these crucial national security issues.

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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

DR. JAMES N. MILLER
PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE
FOR POLICY

BEFORE THE HOUSE
COMMITTEE ON ARMED SERVICES

NOVEMBER 2, 2011

NOT FOR DISTRIBUTION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Chairman Turner, Ranking Member Sanchez, and distinguished members of the Strategic Forces Subcommittee, thank you for the opportunity to testify today. I am pleased to be here today with General C. Robert Kehler, Commander of U.S Strategic Command, Thomas D'Agostino, Administrator of the National Nuclear Security Administration (NNSA) and Under Secretary of State Ellen Tauscher.

The subcommittee asked us to address a number of issues: the on-going review of U.S. nuclear planning guidance; NATO's Defense and Deterrence Posture Review; preparations for future arms control efforts with Russia and potential reductions in U.S. nuclear forces below the New START Treaty's limits; and the President's budget for fiscal year 2012 and fiscal year 2013 as it relates to nuclear sustainment and modernization plans. I will also briefly summarize Administration concerns regarding provisions in H.R. 1540, which deal with nuclear weapons and nuclear weapons policy. General Kehler will give the USSTRATCOM operational perspective. Administrator D'Agostino will provide more detailed information on the nuclear stockpile and infrastructure. And Under Secretary Tauscher will provide more details regarding where we stand on New START implementation and thinking on next steps for arms control.

Today's Nuclear Balance

I would like to begin by providing some context. The U.S. nuclear arsenal included 5,113 weapons as of September 30, 2009, at the time of our last unclassified release of stockpile totals. That figure has dropped slightly. In addition, there are several thousand retired warheads awaiting dismantlement. All told, our nuclear arsenal has been reduced significantly from a high point of approximately 31,000 warheads at the height of the Cold War in 1967.

Unclassified estimates suggest that Russia has 4,000 to 6,500 total nuclear weapons, of which 2,000 to 4,000 are non-strategic tactical nuclear weapons. We have a good understanding of the numbers of deployed Russian strategic nuclear warheads, since they are reported under the New START Treaty, and we have already conducted thirteen on-site inspections in Russia since the Treaty entered into force on February 5th. We have significantly less confidence in estimates of Russian tactical nuclear weapons.

China is increasing the size of its nuclear arsenal but is estimated to have only a few hundred nuclear weapons. India and Pakistan are also increasing the size of their nuclear arsenals, but each is estimated to have fewer weapons than China. Our allies, the United Kingdom and France, each have a few hundred nuclear weapons. North Korea has tested a plutonium-based weapon design and appears to be trying to develop highly enriched uranium weapons. And Iran continues to defy the will of the international community and pursue its nuclear ambitions.

In any event, although both Russia and the United States have substantially decreased nuclear weapons since the Cold War, even after New START is fully implemented, together we will account for over 90 percent of the world's nuclear weapons. As a result, our focus for the next stage of arms control is bilateral efforts with Russia.

Reviewing Nuclear Guidance: Nuclear Posture Review Implementation Study

In order to expedite efforts to reach an arms control arrangement with Russia, the Obama administration elected to rely on existing nuclear guidance from 2002 to determine the acceptable limitations in the New START Treaty of 1,550 deployed nuclear warheads on each side. This decision was consistent with the recommendations of the Congressional Commission on the Strategic Posture of the United States: in effect, to seek an initial agreement with Russia to ensure verification was in place after the START Treaty expired, and then use follow-on negotiations to explore the possibility of further reductions.

As part of the 2010 Nuclear Posture Review (NPR), the President directed a follow-on analysis to set a goal for future nuclear reductions below New START levels, while strengthening deterrence of potential regional adversaries, strategic stability vis-à-vis Russia and China, and assurance of our allies and partners. In undertaking this implementation study, we are focused on achieving the five strategic objectives established in the NPR:

- Preventing nuclear proliferation and nuclear terrorism;
- Reducing the role of U.S. nuclear weapons in U.S. national strategy;
- Maintaining strategic deterrence and stability at reduced nuclear force levels;
- Strengthening deterrence and reassuring U.S. allies and partners; and
- Sustaining a safe, secure, and effective nuclear arsenal.

We are currently in the process of assessing deterrence requirements against these metrics. Our analysis is also considering the critical question of what to do if deterrence fails. In effect, we are asking: what are the guiding concepts for employing nuclear weapons to deter adversaries of the United States, and what are the guiding concepts for ending a nuclear conflict on the best possible terms if one has started?

The Defense Department is leading this analysis, the results of which are intended to provide options for the President's guidance to the Department on nuclear planning. DoD will use this Presidential direction to guide what force structure, force posture, and stockpile requirements are required to protect the United States and our allies and partners, as well as to inform plans for the employment of nuclear weapons in the event that deterrence fails.

Ensuring that our nuclear forces are properly sized and configured to face real threats, both today and into the future, is a responsibility this Administration takes very seriously. Within the DoD, the Office of the Secretary of Defense is working closely with the Joint Staff and U.S. Strategic Command in conducting this analysis. We are also working in close coordination with the National Security Staff and with senior representatives from the Department of Energy and the Department of State. We expect the analysis to be completed before the end of the year.

The issuance of new Presidential guidance is the first step in a chain of events. The Secretary of Defense will then issue more detailed planning guidance to the military. Based on the Secretary's guidance, the Chairman of the Joint Chiefs of Staff will then issue detailed implementing guidance. Finally, U.S. Strategic Command will revise its nuclear plans, based on this direction. Strategic Command's plans will be reviewed by the Chairman of the Joint Chiefs of Staff and the Under Secretary of Defense for Policy, and ultimately approved by the Secretary of Defense.

NATO's Deterrence and Defense Posture Review

The 2010 NPR stated that any changes in NATO's nuclear posture should only be taken after a thorough review within – and decision by – the Alliance. At the NATO Summit in Lisbon in November of 2010, NATO approved a new Strategic Concept for the Alliance, agreed to update allied capabilities to ensure that allies can make good on Article 5 commitments in the face of new threats, and rejuvenated the Alliance's relationship with Russia.

A key part of this agreement was a decision by the Alliance to undertake a Deterrence and Defense Posture Review (DDPR). The DDPR is guided by the new NATO Strategic Concept, which states that "[d]eterrence, based on an appropriate mix of nuclear and conventional capabilities, remains a core element of our overall strategy," and that "[a]s long as nuclear weapons exist, NATO will remain a nuclear alliance." The Strategic Concept also notes that "NATO seeks its security at the lowest possible level of forces" and that the Alliance "will seek to create the conditions for further [nuclear] reductions in the future." The Strategic Concept is also consistent with Senate language in the New START resolution of ratification that any further steps must take into account the disparity between the non-strategic (tactical) nuclear weapons stockpiles of Russia and the United States. Allies also endorsed territorial missile defense as an alliance mission, thereby reinforcing interest in determining the appropriate mix of nuclear and non-nuclear capabilities for deterrence.

The primary aim of the DDPR is to determine the appropriate mix of nuclear, conventional, and missile defense forces that NATO will need to deter and defend against threats to the Alliance, and to ensure its members' security. The review will also consider how political

instruments such as arms control and partnerships can affect the level of capabilities that will be needed in the future and what additional capabilities may need to be created.

The work on the DDPR is expected to be complete by the spring of 2012, prior to the next NATO Summit, which will be held in Chicago. While precise outcomes are unknown at this time, the DDPR is proceeding in accordance with the principles that have been central to NATO's nuclear posture for decades, including:

- Retaining an appropriate mix of both conventional and nuclear capabilities;
- Sharing the risks and burdens of nuclear deterrence in tangible ways;
- Maintaining the minimum number of nuclear capabilities needed to ensure effective deterrence;
- Emphasizing up-to-date security measures at U.S. and Allied bases;
- Encouraging Russia to better secure and reduce its arsenal of non-strategic nuclear weapons; and
- Maintaining undiminished security for all Alliance members.

The DDPR report will be prepared by the North Atlantic Council, where permanent representatives to NATO will work in close consultation with allied capitals to ensure a result that provides an effective deterrence and defense posture. As with all NATO documents, the DDPR will be a consensus document. We believe that it will include a discussion of the role and size of NATO nuclear forces, as well as a discussion of the possibility for future nuclear reductions. Consistent with our commitment in the NPR, I want to reiterate that any changes in NATO's nuclear posture would only be taken after a thorough review within – and decision by – the Alliance.

Future arms control efforts with Russia and potential reductions in U.S. nuclear forces

As stated in the NPR, the United States intends to pursue further reductions in nuclear weapons with Russia. When complete, our analysis of deterrence requirements and force postures will help inform the formulation of any future arms control objectives.

We intend to consider future reductions in the numbers of deployed and non-deployed nuclear weapons, both strategic and non-strategic, and the associated changes in the nuclear forces of other states that would be required to do so in a manner that supports our commitments to stability, deterrence, and assurance. We will ensure that the United States maintains our ability to deter a nuclear attack, our operational flexibility, and the ability to hedge against geo-political and technical uncertainty.

The NPR noted that because of our improved relations, strict numerical parity between the United States and Russia is no longer as compelling as it was during the Cold War. However, it also noted that large disparities in nuclear capabilities could raise concerns on both sides and among U.S. allies and partners, and may not be conducive to maintaining a stable, long-term strategic relationship, especially as nuclear forces are significantly reduced. Therefore, the NPR stated that we will place importance on Russia joining us as we move to lower levels.

Maintaining strategic stability with both Russia and China will remain a key priority in the years ahead. We continue to pursue high-level, bilateral dialogues with Russia and China aimed at promoting more stable, resilient, and transparent strategic relationships.

Any future discussions with Russia should include tactical nuclear weapons, as directed in the resolution of ratification for the New START Treaty. Discussions regarding reductions in the total number of nuclear weapons, both deployed and non-deployed, are also needed. In any future reductions our aim should be to seek the relocation of Russian non-strategic nuclear weapons away from the territory of NATO members.

The timing and the framework for these future discussions are not settled, but the work ongoing now will help to inform those discussions when they do begin. One of the key enablers of any future reductions, both bilateral and multilateral, will be increased transparency. The United States took the first step by declaring the number of nuclear weapons in the U.S. stockpile, and we would welcome reciprocal declarations by Russia and China.

As with all of the activities we are discussing today, it is our intention to keep the Congress appropriately informed about new developments in U.S. arms control policy and strategy.

FY12 and FY13 Budget Issues Related to Nuclear Force Size and Modernization

Upon taking office, the President made reversing the declining budgets for the nuclear complex a priority. The 2010 NPR highlighted the importance of sustaining a safe, secure, and effective nuclear deterrent. The Administration's Section 1251 Report on nuclear force structure plans reflects our commitment to the modernization of our nuclear arsenal for the long term. The Administration is committed to making the investments necessary to recapitalize the complex and ensure we have the highly skilled personnel needed to maintain our nuclear capabilities. These are large investments, but essential to U.S. national security.

The United States has seven years from entry into force of the Treaty to reduce to the aggregate limits of the New START Treaty. Decisions have not yet been made as to whether DoD will take the full seven years to implement the New START Treaty reductions, and whether

delivery systems will be reduced to or below those central limits prior to expiration of the Treaty. As a result of the congressional budget action in August, based on direction from the Secretary of Defense, the Department is conducting a comprehensive review of all programs to inform necessary budget reductions. To date no decisions have been made with respect to future force sizing or the modernization plans for nuclear delivery systems; such decisions will be informed by the Administration's ongoing review of deterrence requirements. I can assure you, however, that these decisions will be consistent with the goals of the NPR, including to maintain strategic stability, provide assurance to our allies and partners of the credibility of the U.S. nuclear umbrella and other security commitments, and to maintain a safe, secure, and effective nuclear deterrent.

The President's budget request for FY2012 included $7.6 billion for weapons activities at the National Nuclear Security Administration (NNSA). I would like to thank this committee for supporting that budget request. On the other hand, both the House of Representatives and Senate Appropriations Committee made significant reductions to the budget request for weapons activities and to the NNSA's budget overall. The House reduced weapons activities funding by $497.7 million and the Senate committee reduced the requested amount by $439.7 million, along with additional reductions to NNSA budget requests for other important activities like Nuclear Nonproliferation and Naval Reactors. Overall the NNSA budget request was reduced by $1.1 billion by the House and by $711.9 million by the Senate Appropriations Committee.

While we recognize that fiscal austerity will constrain spending on national security programs in the years ahead, significant reductions to funding for our nuclear enterprise will place our strategic and extended deterrence commitments at risk – a posture the United States cannot afford. The President committed modernizing our nuclear weapons and infrastructure after completion of the 2010 NPR – including a commitment to pursue these programs and capabilities for as long as he is President. Even in the difficult budget climate that we now confront, the President has kept his word.

The Department of Defense contributed significantly to NNSA's requests for FY2011 and FY2012, and is prepared to continue support through FY2016. These contributions are reflective of the close linkage between NNSA's nuclear weapons programs and the specific needs of its customer, DoD. Without adequate funding for NNSA, however, the nuclear weapons life extension programs, nuclear infrastructure, and the retention of the people on which we depend to maintain a safe, secure, and effective nuclear arsenal are all at risk. It is for that reason that Secretary Panetta stated to the House Armed Services Committee that he would oppose reductions for modernization funding.

The nuclear enterprise remains, today and for the foreseeable future, the foundation of the U.S. deterrence strategy and defense posture. The U.S. nuclear weapons infrastructure requires significant and immediate investment. In order to remain safe, secure, and effective, the U.S.

nuclear stockpile must be supported by a modern physical infrastructure and staffed by the most promising scientists and engineers of the next generation. I understand the budget pressures, but the nuclear enterprise is an area where there is a need to invest now to save money later. As Secretary Panetta said before this committee recently, cuts to modernization funding would be "tremendously short-sighted." I look forward to working with this committee to identify ways to restore this much needed funding.

H.R. 1540 Provisions of Concern

The National Defense Authorization Bill passed by the House of Representatives, H.R. 1540, includes a number of provisions relating to nuclear weapons that are of concern to the Administration. The Administration's position on these provisions has been made clear in the Statement of Administration Policy on H.R. 1540, which notes that the President's senior advisors would recommend vetoing the bill if these provisions were enacted into law.

I would like to reiterate those concerns here today. In particular, sections 1055 and 1056 of H.R. 1540 would impinge on the President's authority to implement the New START Treaty and establish U.S. nuclear weapons policy. Moreover it would set onerous conditions on the Administration's ability to direct the retirement, dismantlement, or elimination of non-deployed nuclear weapons.

This legislation would dictate the pace of reductions under New START in a way that would bar DoD and DoE from studying the best means to implement reductions, preclude DoD from being logistically able to meet New START Treaty timelines, and add disruptions and costs at a time when our country and nuclear enterprise can ill afford them. Notably, it would set conditions on New START implementation and divert resources from stockpile sustainment in ways that tax the very programs that the House Appropriations Committee has just cut drastically. Further, section 1056 raises constitutional concerns, as it appears to encroach on the President's authority as Commander in Chief to set nuclear employment policy.

As mentioned above, the President has kept the commitments he made during the New START Treaty ratification process; the provisions in H.R. 1540 would impose restrictions above and beyond those commitments. I believe that robust dialogue on these issues is the best means to satisfy Congressional concerns, rather than attempts to restrict the authorities of the President.

Conclusion

The 2010 Nuclear Posture Review specifically states in its Introduction that sustaining the U.S. nuclear deterrent will be the work of many Administrations and Congresses, and thus requires sustained bipartisan support. In fact, a key purpose of the NPR was to help to forge such a consensus.

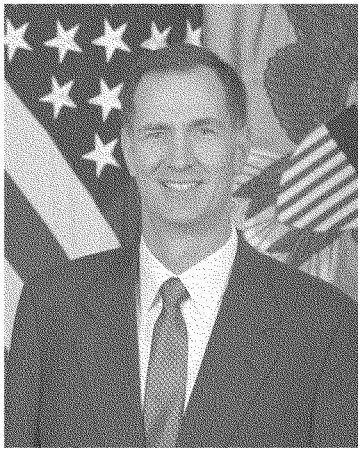
We made good progress on some areas, including securing most of the requested funding for fiscal year 2011, and Senate advice and consent to ratification of the New START Treaty. As we face reductions to DoD's budget, and as we enter into a Presidential election period, we need to establish a strong bipartisan consensus to address these issues as apolitical national security priorities.

As this work continues and guidance is reviewed over time, we expect and welcome vigorous and informed debate on these matters of national importance. But at the end of the day, I believe that it is strongly in the U.S. national interest that the Administration and Congress reach a workable and sustainable bipartisan consensus.

I appreciate the opportunity to discuss these important issues, and to work with this subcommittee to develop that necessary bipartisan commitment. Thank you and I look forward to your questions.

Dr. James N. Miller

Principal Deputy Under Secretary of Defense for Policy



Dr. James N. Miller was confirmed by the U.S. Senate as the Principal Deputy Under Secretary of Defense for Policy on April 2, 2009. He serves as the principal staff assistant to the Under Secretary of Defense for Policy and provides advice and assistance to the Secretary of Defense and Deputy Secretary of Defense on all matters concerning the formulation of national security and defense policy and the integration and oversight of DoD policy and plans to achieve national security objectives.

Prior to his confirmation, Dr. Miller served as Senior Vice President and Director of Studies at the Center for a New American Security. Previous positions include serving as Senior Vice President (2003-2007) and Vice President (2000-2003) at Hicks and Associates, Inc.; Deputy Assistant Secretary of Defense for Requirements, Plans, and Counterproliferation Policy (1997-2000); assistant professor at Duke University (1992-1997); and senior professional staff member for the House Armed Services Committee (1988-1992).

A member of the International Institute for Strategic Studies, Dr. Miller has served as an advisor to the Combating WMD Panel of DoD's Threat Reduction Advisory Committee and the Defense Science Board, as senior associate at the Center for Strategic and International Studies, and as senior associate member at St. Antony's College, Oxford. In 2000 he received the Department of Defense Medal for Outstanding Public Service.

Dr. Miller received a B.A. degree with honors in economics from Stanford University, and Master's and Ph.D. degrees in public policy from the John F. Kennedy School of Government at Harvard University.

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HOUSE COMMITTEE ON ARMED SERVICES

STATEMENT OF

GENERAL C. ROBERT KEHLER

COMMANDER

UNITED STATES STRATEGIC COMMAND

BEFORE THE

HOUSE COMMITTEE ON ARMED SERVICES

SUBCOMMITTEE ON STRATEGIC FORCES

2 NOVEMBER 2011

NOT FOR DISTRIBUTION UNTIL RELEASED BY THE
HOUSE COMMITTEE ON ARMED SERVICES

Chairman Turner, Ranking Member Sanchez, and members of the Subcommittee, thank you for inviting me to join you today to share my views, as the commander of U.S. Strategic Command (USSTRATCOM), on several issues important to America's national security and that of our allies and partners. I appreciate this opportunity to join Under Secretary of State for Arms Control and International Security Ellen Tauscher, Administrator Tom D'Agostino of the National Nuclear Security Administration, and Dr. Jim Miller, Principal Deputy Under Secretary of Defense for Policy, to discuss strategic nuclear deterrence. I look forward to discussing USSTRATCOM's nuclear deterrence responsibilities, our roles in Nuclear Posture Review (NPR) implementation (including the follow-on study called for in the 2010 NPR), New Strategic Arms Reduction Treaty (New START) implementation, and nuclear deterrent force requirements.

U.S. Strategic Command's Nuclear Responsibilities

In executing the nation's nuclear strategy, USSTRATCOM is assigned combatant command responsibility for the nation's Triad of strategic nuclear deterrent forces: ballistic missile submarines (SSBNs); intercontinental ballistic missiles (ICBMs); and nuclear-capable heavy bombers, along with supporting strategic warning; command, control, communications (C3); and planning capabilities. USSTRATCOM operates these responsive, flexible, and capable strategic forces twenty four hours a day, three hundred sixty five days a year as directed by the President's strategic guidance. While the international security environment has changed dramatically since the end of the Cold War, the purpose of the nuclear deterrent force remains clear: to deter attacks on the U.S. and our allies and if deterrence fails, to respond according to Presidential direction. In this and many other mission areas, the men and women assigned to USSTRATCOM perform an essential service for the nation—a service few Americans think

about but from which we all benefit. Along with their partners throughout the Departments of Defense, Energy, and State, these men and women underwrite the security of the United States and our partners and allies.

USSTRATCOM is also responsible for building the nation's nuclear employment plans. These plans bolster deterrence by providing the President with executable nuclear employment options to achieve national objectives should deterrence fail. All nuclear employment planning is performed in strict accordance with planning guidance transmitted to USSTRATCOM in three forms: guidance from the President, guidance from the Secretary of Defense, and guidance from the Chairman of the Joint Chiefs of Staff. Each level articulates the President's intent in more detail. Once USSTRATCOM receives this guidance, we conduct extensive mission analyses to determine the best means to achieve the assigned objectives. The resulting plans provide the President with an array of executable nuclear employment options. We also maintain a robust, adaptive planning capability, should circumstances develop for which the President requires options not provided in established plans.

As the USSTRATCOM Commander, I am assigned responsibilities in the broader nuclear enterprise as well. I am a member of the Nuclear Weapons Council, and I lead the combatant command responsible for nuclear capability advocacy. Furthermore, I am responsible for annually certifying to the President the surety of the nation's nuclear weapons stockpile. Finally, I provide professional military advice to the President, the Secretary of Defense, and the Chairman of the Joint Chiefs of Staff on nuclear strategy, operations, and weapons issues. Given the magnitude of these responsibilities and the continuing importance of nuclear weapons in our national security posture, USSTRATCOM's number one priority remains to ensure we have a

safe, secure, and effective nuclear deterrent force and to operate that force to deter attack on the U.S. and our allies.

Of course, the nation's deterrence toolkit is not limited to our nuclear forces. An adversary contemplating an attack on the U.S. or our allies and partners must account for the full array of military capabilities at the President's disposal. Particularly important are our ongoing efforts to enhance our deterrent by deploying ballistic missile defenses, developing advanced conventional precision strike capabilities, responding to new challenges in space, building cyberspace capability and capacity, improving abilities to counter weapons of mass destruction, and ensuring the intelligence capabilities necessary for today's dynamic operating environment. USSTRATCOM plays important roles in all of these areas, and we are fully engaged in assisting with the integration of these capabilities in our deterrence strategy and posture.

U.S. Strategic Command's Role in NPR Implementation: Follow-on Study

As directed by the Nuclear Posture Review, the Department of Defense is participating in a follow-on study to update our assessment of deterrence requirements and inform Administration thinking about nuclear employment guidance and potential future nuclear force reductions below the levels in New START. USSTRATCOM is a full participant in this effort.

In all such processes, I believe a fundamental principle of national security planning is that strategy should drive force sizing, and not vice versa. Stated slightly differently, the "ends" and "ways" of our strategy should determine the required "means" our forces must provide. The New START negotiating position was developed using this principle, and the follow-on study is based on the same concept: first define the strategy and then determine the force requirements to implement it.

Based on this principle, USSTRATCOM is supporting the follow-on study in two ways. First, I am providing my best military advice regarding potential changes in employment guidance consistent with the principles stated in the Nuclear Posture Review. Second, as the command responsible for conducting strategic nuclear planning and operations, USSTRATCOM is providing analysis and advice on the force structure and force posture that best meets our deterrence requirements.

U.S. Strategic Command's Role in New START Implementation

USSTRATCOM played an important role by providing analysis and advice to the team that developed the U.S. New START negotiating position, supporting the U.S. delegation throughout the talks, and offering analysis and advice to the Secretary of Defense and Chairman of the Joint Chiefs of Staff.

New START has been in force for nearly nine months, and the U.S. has until February 2018--a little more than six years--to bring our nuclear force structure into compliance with the Treaty's aggregate limits. That may seem like a long time, but there is much work to be done. USSTRATCOM has a leadership role for implementation planning, and we are working with the Office of the Secretary of Defense, the Joint Staff, and the Services to determine how we will implement specific provisions of the Treaty efficiently and without undue impact on ongoing operations, what resources are required to execute that implementation plan, and how we will phase and synchronize the implementation steps across the joint force.

Let me make two final points about New START implementation. First, the Treaty allows us the operational flexibility to adjust our force structure under its limits to address planned and unexpected events. For example, when combined with a smaller, sustainable weapon stockpile, we can adjust Triad warhead loading to meet both near-term needs and

potential unforeseen circumstances. This operational flexibility is important for our technical and geopolitical hedging strategy. Second, it is critically important to proceed with the planned investments in force sustainment, force modernization, warhead life extension, Stockpile Management Program, and the Department of Energy's nuclear enterprise.

Nuclear Deterrent Force Requirements

The NPR validated the continued importance of the Triad and the need to sustain a safe, secure, and effective nuclear arsenal for as long as nuclear weapons exist, and it supported investments to sustain and modernize necessary capabilities while providing for an effective nuclear industrial enterprise in the long term. Decisions to align our force structure with the NPR, New START, and "Section 1251 Report" have yet to be made, but I expect those decisions to be made soon and look forward to partnering with Congress to ensure an effective and sufficiently funded nuclear deterrent force. Furthermore, a highly specialized industrial enterprise underpins our nuclear deterrent today, ensuring our ability to extend the lives of nuclear weapons, eliminate excess stockpile weapons, and scientifically verify the safety, security, and effectiveness of today's weapons without a return to underground testing.

Continued funding support is essential to the long-term safety, security, and effectiveness of our nation's nuclear deterrent force. Specifically, funding is vital for the sustainment and modernization of delivery systems (development of OHIO-class SSBN replacement and requirements scoping for both the next generation bomber and follow-on ICBM), weapon life extensions (W76-1, B61, W78), infrastructure recapitalization (Uranium Processing Facility, Chemistry and Metallurgy Research Replacement-Nuclear Facility), crucial naval reactor design activities for the OHIO-class SSBN replacement, and C3 assets, including the USSTRATCOM Headquarters command and control complex.

The U.S. nuclear enterprise faces a substantive, multi-decade recapitalization challenge at the very time we simultaneously face stark fiscal realities that demand difficult choices and the most careful and effective stewardship of taxpayer dollars. Our challenge is great, and the choices we make today will affect our long-term confidence in the nuclear deterrent force.

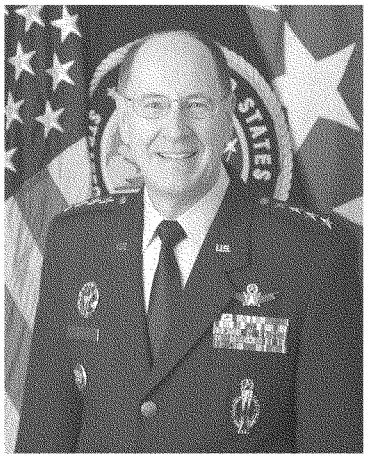
Conclusion

Mr. Chairman, Ranking Member Sanchez, and members of the Subcommittee, USSTRATCOM is moving forward to implement New START and the NPR effectively. We continue to be a key partner in nuclear studies, and we are forever focused on providing the nation a safe, secure, and effective nuclear deterrent force for as long as nuclear weapons exist. Thank you again for this opportunity to appear before you, and I look forward to your questions.

BIOGRAPHY

UNITED STATES AIR FORCE

GENERAL C. ROBERT "BOB" KEHLER



Gen. C. Robert "Bob" Kehler is Commander, U.S. Strategic Command, Offutt Air Force Base, Neb. He is responsible for the plans and operations for all U.S. forces conducting strategic deterrence and Department of Defense space and cyberspace operations.

General Kehler entered the Air Force in 1975 as a distinguished graduate of the Air Force ROTC program. He has commanded at the squadron, group, wing and major command levels, and has a broad range of operational and command tours in ICBM operations, space launch, space operations, missile warning and space control. He commanded a Minuteman ICBM operations squadron at Whiteman AFB, Mo., and the Air Force's largest ICBM operations group at Malmstrom AFB, Mont. He served as Deputy Director of Operations, Air Force Space Command, and commanded both the 30th Space Wing at Vandenberg AFB, Calif., and the 21st Space Wing at Peterson AFB, Colo. As Deputy Commander, U.S. Strategic Command, he helped provide the President and Secretary of Defense with a broad range of strategic capabilities and options for the joint warfighter through several diverse mission areas, including space operations, integrated missile defense, computer network operations and global strike. General Kehler also commanded Air Force Space Command and America's ICBM force before its transition from Air Force Space Command to Air Force Global Strike Command in December 2009.

The general's staff assignments include wing-level planning and tours with the Air Staff, Strategic Air Command headquarters and Air Force Space Command. He was also assigned to the Secretary of the Air Force's Office of Legislative Liaison, where he was the point man on Capitol Hill for matters regarding the President's ICBM Modernization Program. As Director of the National Security Space Office, he integrated the activities of a number of space organizations on behalf of the Under Secretary of the Air Force and Director, National Reconnaissance Office.

EDUCATION

1974 Bachelor of Science degree in education, Pennsylvania State University, State College
1980 Distinguished graduate, Squadron Officer School, Maxwell AFB, Ala.
1982 Air Command and Staff College, by correspondence
1987 Master of Science degree in public administration, University of Oklahoma, Norman
1988 Armed Forces Staff College, Norfolk, Va.
1992 Air War College, by seminar

1995 Naval War College, Newport, R.I.
1995 Master of Arts degree in national security and strategic studies, Naval War College, Newport, R.I.
1998 Program for Executives, Carnegie-Mellon University, Pittsburgh, Pa.
2002 National Security Leadership Course, Maxwell School of Citizenship and Public Affairs, Syracuse University, N.Y.
2006 Program for Senior Executives in National and International Security, John F. Kennedy School of Government, Harvard University, Cambridge, Mass.

ASSIGNMENTS
1. April 1975 - June 1975, student, missile combat crew operational readiness training, Vandenberg AFB, Calif.
2. June 1975 - January 1981, missile combat crew member, instructor, senior evaluator, and Emergency War Order instructor, 341st Strategic Missile Wing, Malmstrom AFB, Mont.
3. January 1981 - April 1982, personnel staff officer, Air Staff Training Program, Headquarters U.S. Air Force, Washington, D.C.
4. April 1982 - January 1985, missile operations staff officer, Headquarters Strategic Air Command, Offutt AFB, Neb.
5. January 1985 - January 1988, resource planner, Directorate of Air Force Operations Plans, and Chief, Strategic Missile Branch, Secretary of the Air Force Office of Legislative Liaison, Headquarters U.S. Air Force, Washington, D.C.
6. January 1988 - June 1988, student, Armed Forces Staff College, Norfolk, Va.
7. July 1988 - July 1991, nuclear employment and policy planner, Nuclear and Chemical Division, Joint Staff, the Pentagon, Washington, D.C.
8. July 1991 - July 1992, Commander, 508th Missile Squadron, Whiteman AFB, Mo.
9. July 1992 - February 1993, Deputy Commander, 351st Operations Group, Whiteman AFB, Mo.
10. February 1993 - August 1994, Commander, 341st Operations Group, Malmstrom AFB, Mont.
11. August 1994 - July 1995, student, Naval War College Newport, R.I.
12. July 1995 - August 1995, Inspector General, Headquarters Air Force Space Command, Peterson AFB, Colo.
13. August 1995 - June 1996, Deputy Director of Operations, Headquarters AFSPC, Peterson AFB, Colo.
14. June 1996 - June 1998, Commander, 30th Space Wing, Vandenberg AFB, Calif.
15. June 1998 - September 1999, Chief, Space Superiority Division, and Chairman, Space Superiority and Nuclear Deterrence Panel, Office of the Deputy Chief of Staff for Plans and Programs, Headquarters U.S. Air Force, Washington, D.C.
16. September 1999 - August 2000, special assistant to the Director of Programs, Office of the Deputy Chief of Staff for Plans and Programs, Headquarters U.S. Air Force, Washington, D.C.
17. August 2000 - May 2002, Commander, 21st Space Wing, Peterson AFB, Colo.
18. May 2002 - May 2005, Director, National Security Space Integration, Office of the Under Secretary of the Air Force, Washington, D.C.
19. May 2005 - October 2007, Deputy Commander, U.S. Strategic Command, Offutt AFB, Neb.
20. October 2007 - January 2011, Commander, Air Force Space Command, Peterson AFB, Colo.
21 January 2011 - present, Commander, U.S. Strategic Command, Offutt AFB, Neb.

SUMMARY OF JOINT ASSIGNMENTS
1. July 1988 - July 1991, nuclear employment and policy planner, Nuclear and Chemical Division, Joint Staff, the Pentagon, Washington, D.C., as a major and lieutenant colonel
2. May 2005 - October 2007, Deputy Commander, U.S. Strategic Command, Offutt AFB, Neb., as a lieutenant general
3. January 2011 - present, Commander, U.S. Strategic Command, Offutt AFB, Neb., as a general

OPERATIONAL INFORMATION
Weapon systems: Minuteman II and Minuteman III, Defense Support Program
Launch systems: Titan II, Titan IV and Delta II

MAJOR AWARDS AND DECORATIONS
Distinguished Service Medal with oak leaf cluster
Defense Superior Service Medal
Legion of Merit with two oak leaf clusters
Defense Meritorious Service Medal
Meritorious Service Medal with three oak leaf clusters
Air Force Commendation Medal

PUBLICATIONS
"Nuclear Armed Adversaries and the Joint Commander," Naval War College Review, Winter 1996

EFFECTIVE DATES OF PROMOTION
Second Lieutenant April 10, 1975
First Lieutenant April 10, 1977
Captain April 10, 1979
Major May 1, 1985
Lieutenant Colonel June 1, 1989
Colonel Feb. 1, 1994
Brigadier General July 1, 2000
Major General Aug. 1, 2003
Lieutenant General June 1, 2005
General Oct. 12, 2007

(Current as of January 2011)

House Armed Services Subcommittee on Strategic Forces
Open Hearing, "The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture"

November 2, 2011, 3:30 pm
Room 2118, Rayburn House Office Building

Prepared Statement by Ellen O. Tauscher
Under Secretary of State for Arms Control and International Security
"The State Department's Role in NATO DDPR and Future Arms Control"

Good afternoon and thank you for this opportunity to share my perspective on the State Department's role in the future direction of U.S. nuclear weapons policy and posture. I will focus my initial remarks on two areas where State is playing a major role: the ongoing Deterrence and Defense Posture Review (DDPR) in NATO, and the preparations, process, and expectations for future arms control efforts with Russia and other countries.

The Administration is committed to continuing a step-by-step process, as outlined by President Obama in Prague in 2009, to reduce the overall number of nuclear weapons, including the pursuit of a future agreement with Russia for broad reductions in all categories of nuclear weapons – strategic, non-strategic, deployed and non-deployed.

President Obama is committed to seeking to initiate negotiations with the Russian Federation to address the disparity between the non-strategic nuclear stockpiles of the Russian Federation and the United States and to secure and reduce non-strategic nuclear weapons in a verifiable manner.

Our approach will be guided by the key principles that Secretary Clinton outlined at the 2010 NATO Foreign Ministerial meeting in Tallinn. We aim to both show strong Allied support for the President's Prague vision and underscore our common view, as the Alliance agreed at the November 2010 Lisbon Summit, that NATO will remain a nuclear alliance as long as nuclear weapons exist.

At Lisbon, the Alliance reaffirmed that the strategic nuclear forces of NATO's nuclear-armed member states are the "supreme guarantee of the security of the Allies" and agreed that NATO should maintain the broadest possible level of burden sharing on nuclear matters. NATO Allies agreed to seek to create the

conditions for future nuclear reductions, and noted that the Alliance should seek Russia's agreement to increase the transparency of its nuclear weapons in Europe and to relocate these weapons away from the territory of NATO members. We are committed to consulting closely with Allies and making decisions by consensus on NATO's nuclear deterrent.

The DDPR is examining NATO's overall posture in deterring and defending against the full range of threats to the Alliance. Its mission is to identify the "appropriate mix" of conventional, nuclear, and missile defense capabilities NATO needs in order to respond to 21st century security challenges, strengthening deterrence as part of our commitment to allied security. We aim to complete it for the NATO Summit that President Obama will host in Chicago in May 2012.

The DDPR also provides us an important opportunity to consult with Allies about nuclear deterrence and future U.S.-Russia nuclear talks. Its results will inform our consideration of next steps with Russia on nuclear reductions.

As a next step in our bilateral dialogue with Russia, we seek to conduct a broad policy discussion on the various considerations that affect strategic stability. We also hope to deepen this engagement to discuss key concepts and terminology which will become relevant as we prepare to discuss further reductions in strategic and non-strategic nuclear weapons, including both deployed and non-deployed weapons.

We also would like to increase transparency on a reciprocal basis with Russia. We are thinking through how such transparency measures might be implemented, and are consulting with our NATO allies on that subject through the DDPR.

The New START Treaty with Russia has been in force since February 5, and its implementation is proceeding smoothly. The New START Treaty places equal limits on both sides, limits that are significantly lower than the levels provided for in the earlier START Treaty and the Moscow Treaty. The Treaty provides us confidence that as Russia modernizes its strategic forces, Russian force levels will not exceed the Treaty limits seven years after entry into force and continuing for the remainder of the Treaty's duration.

The New START Treaty contributes to our security not only through its limits, but also through its strong verification regime. The Treaty provides us greater certainty about the composition of Russia's forces and provides information and access that we would otherwise lack. Without the New START Treaty, our

inspectors would not be able to visit Russian strategic weapons bases. New START's verification regime enhances predictability and stability in the U.S.-Russian nuclear relationship, reducing the risks of miscalculation, misunderstanding, and mistrust.

Beyond the U.S.-Russia relationship, the P5 nuclear weapons states are engaging in a dialogue on issues relating to nuclear weapons verification, transparency and confidence-building measures, as called for at the 2010 Nuclear Non-Proliferation Treaty (NPT) Review Conference. In late June, France hosted a P5 conference on these topics. The P5 discussed a range of issues, including nonproliferation, verification and reporting, and exchanged information on nuclear doctrine and capabilities. The UK offered to host discussions on verification at an expert-level meeting in London. To ensure a continuing process, the P5 agreed to establish a working group to develop an agreed glossary of key nuclear terms, which will be very helpful to reaching mutual understanding in future multilateral discussions of limitations on nuclear weapons. The P5 also agreed to hold a third P5 conference next year in the context of the next NPT Preparatory Committee meeting. These deepening P-5 engagements are important to our broader nonproliferation objectives, and help underscore P-5 commitment to the Non-Proliferation Treaty.

Thank you and I look forward to answering your questions.

U.S. DEPARTMENT OF STATE
DIPLOMACY IN ACTION

Biography

Ellen Tauscher
Under Secretary
ARMS CONTROL AND INTERNATIONAL SECURITY
Term of Appointment: 06/27/2009 to present

On June 27, 2009, Ellen O. Tauscher was sworn-in as Under Secretary of State for Arms Control and International Security.

Under Secretary Tauscher previously had represented California's 10th Congressional District for 13 years in the U.S. House of Representatives. The district includes San Francisco's suburbs in Contra Costa, Alameda Solano, and Sacramento counties. She was the only member of Congress to have two national defense laboratories, Lawrence Livermore and Sandia California, in her district. The district also includes Camp Parks Army Reserve facility and Travis Air Force Base, home of the 60th Air Mobility Wing.

She chaired the House Armed Services Subcommittee on Strategic Forces since 2007 and she was a senior member of the House Committee on Transportation and Infrastructure. She also chaired the New Democrat Coalition, a group of more than 60 centrist House Democrats.

Before winning a seat in Congress, Under Secretary Tauscher spent 14 years working on Wall Street. She was one of the first women to hold a seat on the New York Stock Exchange and later served as an officer of the American Stock Exchange.

Under Secretary Tauscher graduated from Seton Hall University.

Statement of Thomas P. D'Agostino
Under Secretary for Nuclear Security and
Administrator, National Nuclear Security Administration
U.S. Department of Energy
on the
Current Status and Future Direction
for U.S. Nuclear Weapons Policy and Posture
Before The
Subcommittee on Strategic Forces
House Armed Services Committee

November 2, 2011

Chairman Turner, Ranking Member Sanchez, and members of the subcommittee, thank you for the opportunity to testify about the nuclear mission, and the work the National Nuclear Security Administration is doing to ensure the effectiveness of our nation's nuclear deterrent and to advance global nuclear security.

This is a unique opportunity to discuss the current policy context, Department of Defense requirements for our nuclear stockpile, and NNSA's modernization plans for the stockpile and our supporting infrastructure, all of which have been developed in support of the President's comprehensive nuclear security agenda.

I also want to thank the Committee for your continued support of the Department of Energy and NNSA. We have 35,000 men and women across the Nuclear Security Enterprise working to keep our country safe, protect our allies, and enhance global security; your leadership and support have made their jobs easier.

The President has made strengthening nuclear security and the nonproliferation regime one of his top priorities. Over the last few years we have worked tirelessly to establish a consensus on U.S. nuclear policy. This high level support, as laid out in the Nuclear Posture Review (NPR) and as seen in the President's effort to secure Senate approval of the new START treaty, were critical developments for NNSA, and the commitment of the White House has reinvigorated my entire organization. Furthermore, President Obama's commitment to reverse the decline in investment that took place before he entered office is essential for accomplishing the nuclear security agenda.

This commitment was reflected in the President's FY 2012 budget request for NNSA. The FY 2012 request reflects an integrated, ten year plan, and identifies the funding necessary to ensure the safety, security, and effectiveness of our nuclear stockpile, modernize the infrastructure we need to execute our mission, and revitalize the science, technology, and engineering (ST&E) base that supports the full range of our nuclear security activities. Investment in these capabilities over the next decade is essential – I cannot overemphasize this point – and will require sustained multi-year support from future Administrations and Congresses.

The NPR and New START have been important to our Enterprise for the direction they have given us. The NPR has provided a government-wide consensus on the role of nuclear weapons in our national security strategy, and provided an opportunity to make long-term decisions about comprehensive nuclear modernization in a way grounded in national policy. Furthermore, New START has strengthened our national security not just by decreasing the number of deployed nuclear weapons in the world, but also by reestablishing the transparency and verification measures that build trust and are such an integral part of a positive U.S.-Russian relationship.

The stability we have gained from the NPR and New START allows us to plan and use our resources much more effectively. It means we can make smart, strategic decisions based on clear mission guidance. We have a comprehensive Stockpile Stewardship and Management Plan that is updated annually, and provides a 20-year view of the stockpile, as well as the science, infrastructure and human capital necessary to execute complex transformation and nuclear modernization activities. This plan is produced in coordination with the 1251 report, a joint report with the Department of Defense that provides a 10 year projection for modernization plans, to include delivery systems.

I would like to express my concern, however, that this sense of stability could be eroded given the uncertainties stemming from the reductions Congress is contemplating in the FY 2012 budget process. These uncertainties directly impact our workforce, our ability to efficiently plan and execute our programs, and, ultimately, our ability to be successful. In order to plan and execute a complex and integrated program efficiently, the NNSA had developed and received support for the 10-year plan outlined in the 1251 Report; however, this consensus for nuclear modernization is facing great uncertainty in the face of today's extreme fiscal challenges and the limitations imposed by the Congress in the Budget Control Act. It is critical to accept the linkage between modernizing our current stockpile in order to achieve the policy objective of decreasing the number of weapons we have in our stockpile, while still ensuring our deterrent is safe, secure and effective.

Our Stockpile Stewardship Program, which allows us to assess and certify the nuclear stockpile without returning to underground nuclear testing, has grown increasingly important. The science, technology, and engineering base at our national laboratories is the backbone of the nuclear security mission. Our world-class scientific capabilities, for example in modeling, simulation and supercomputing, continue to be developed to realize the SSP and today we have a greater understanding of how a nuclear weapon behaves than we did during the days of testing.

The ability of our Nuclear Security Enterprise to assess the stockpile is the primary mission of the Stockpile Stewardship Program. Surveillance is a critical component of this mission. We are working every day to improve our ability to identify, understand, and address the effects of aging of our stockpile. We are moving forward with key life extension programs, and are working to design and build the modern facilities we need to maintain the nation's expertise in uranium component processing and plutonium research. And most importantly, we are working to recruit and retain the next generation of scientists and engineers.

The types of people we need to execute our mission are highly sought-after. Without a long-term vision that is consistently supported by the Congress, they can, and will, simply look elsewhere.

We have some of the best and brightest engineers and scientists in the world but to retain this workforce we must give them the tools and facilities they need to be innovative and effective, as well as an atmosphere where they can work with a sense of national purpose and clarity.

I would like to emphasize that this workforce supports the breadth of the NNSA mission space. Investing in a modern Nuclear Security Enterprise is not just about the stockpile. As the President said in Prague in April 2009, the threat of a terrorist acquiring and using a nuclear weapon is the most immediate and extreme threat we face. The investments we make today help support the full range of our nuclear security mission, which includes countering nuclear terrorism. Moreover, these investments are necessary for maintaining the high quality workforce that is critical for us to be successful.

NNSA engineers are working to complete the design work on the nuclear reactor plant for the Ohio-class Replacement submarine. This effort is a continuation of the long standing unique role NNSA serves in partnership with the U.S. Navy.

We have some of the best minds in the country working on issues like nuclear forensics, treaty verification activities, scientist engagements, and research and development initiatives that ultimately help keep nuclear material and expertise out of the hands of terrorists. We also carry this engagement to our international partners, who are an indispensible part of our nonproliferation effort.

As part of our nonproliferation work, we are developing advanced safeguards, technologies, and concepts to support the IAEA and are assisting many Member States around the world in implementing their Nuclear Non-Proliferation Treaty obligations. As part of our strategic arms control verification work, we are leveraging the expertise of our physicists and engineers to advance radiation detection technology and equipment. And should new monitoring capabilities be required, specialists from throughout our Enterprise will play an essential role in the development and evaluation process.

We are leading international efforts to implement more stringent standards for the physical protection of nuclear material and nuclear facilities worldwide. And as part of our ongoing efforts to permanently eliminate materials that could be used by terrorists to make a nuclear weapon we recently downblended over 72 pounds of highly enriched uranium in Kazakhstan. This effort was an important milestone, bringing us closer to achieving President Obama's goal of securing all vulnerable nuclear material around the world. In addition, we recently reached a major achievement by equipping all Russian border crossing points with over 380 radiation detection monitors to help deter and detect illicit trafficking of nuclear and other radioactive materials across international borders. This was the culmination of 15 years of cooperative efforts with Russia.

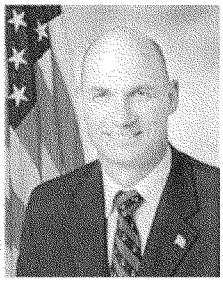
We are working toward a modern, 21st Century Nuclear Security Enterprise that is safer, more secure, more efficient, and organized to succeed. Our goal is for a truly integrated Enterprise where all of our programs and partners work together to fulfill our continuing missions. With clear direction from the President, and with Congress's support, I believe the Enterprise can move steadily on the path toward future mission success.

I look forward to answering any questions you may have and appreciate the invitation to be here today.

National Nuclear Security Administration

Thomas P. D'Agostino

Under Secretary for Nuclear Security & Administrator, National Nuclear Security Administration



Mr. Thomas Paul D'Agostino was sworn in on August 30, 2007, as the Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration (NNSA). On September 3, 2009, President Obama announced that Mr. D'Agostino was his choice to continue serving as the Under Secretary for Nuclear Security and NNSA Administrator.

The NNSA plays a critical role in ensuring the security of our Nation by maintaining the safety, security, and effectiveness of the U.S. nuclear weapons stockpile without nuclear testing; reducing the global danger from the proliferation of nuclear weapons and materials; providing the U.S. Navy with safe and effective nuclear propulsion; and providing the Nation with an effective nuclear counterterrorism and incident response capability.

From February 2006 to August 2007, Mr. D'Agostino served as the Deputy Administrator for Defense Programs and directed the Stockpile Stewardship Program and major elements of the NNSA's Nuclear Security Enterprise. The Nuclear Security Enterprise includes three national research laboratories, four production plants, and the Nevada Test Site. The Stockpile Stewardship Program employs more than 25,000 people around the country and encompasses operations associated with manufacturing, maintaining, refurbishing, and dismantling the nuclear weapons stockpile.

Prior to his appointments to the above Presidentially-appointed Senate confirmed positions, Mr. D'Agostino was the Assistant Deputy Administrator for Program Integration where he supported the Deputy Administrator and directed the formulation of the programs, plans, and budget for the Stockpile Stewardship Program. He had also served as the Deputy Director for the Nuclear Weapons Research, Development, and Simulation Program where he directed the formulation of the programs and budget for the research and development program that supports the Stockpile Stewardship Program. Mr. D'Agostino also worked in numerous assignments within the Federal Government including the start-up of the Department's tritium production reactors and at the Naval Sea Systems Command as a program manager for the SEAWOLF submarine propulsion system.

Mr. D'Agostino achieved the rank of Captain in the U.S. Naval Reserves where he served with the Navy Inspector General and with the Deputy Chief of Naval Operations for Submarine Warfare in developing concepts for new attack submarine propulsion systems. He also served

with the Deputy Chief of Naval Operations for Plans, Policy, and Operations (N3/5) in the Navy Command Center in the Pentagon. In this capacity, he was the French Desk Officer for the Chief of Naval Operations responsible for all Politico-Military interactions with the French Navy and served as the Duty Captain at the Navy Command Center.

He spent more than eight years on active duty in the Navy as a submarine officer, including assignments onboard the USS SKIPJACK (SSN 585) and with the Board of Inspection and Survey where he was the Main Propulsion and Nuclear Reactor Inspector. In this position, he performed nuclear reactor and propulsion engineering inspections for more than 65 submarines and nuclear-powered ships in the Atlantic and Pacific Fleets.

Mr. D'Agostino's awards include: Presidential Rank Meritorious Executive Award; Navy Commendation Medal with Gold Stars; Navy Achievement Medal; Navy Expeditionary Medal; Meritorious Unit Commendation; and, National Defense Service Medal.

Mr. D'Agostino is married to Beth Ann Alemany of Manchester, CT, and has two children.

Education:
Naval War College, Newport, RI, MS National Security Studies, 1997 (Distinguished Graduate)
Johns Hopkins University, Baltimore, MD, MS Business Finance, 1992
United States Naval Academy, Annapolis, MD, BS Physical Science, 1980

DOCUMENTS SUBMITTED FOR THE RECORD

NOVEMBER 2, 2011

MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF DEFENSE
AND
THE DEPARTMENT OF ENERGY
CONCERNING
MODERNIZATION OF THE U.S. NUCLEAR INFRASTRUCTURE

I. Introduction

Consistent with the recommendations from the 2010 Nuclear Posture Review (NPR), the Secretaries of the Department of Defense (DoD) and the Department of Energy (DOE) agree that it is necessary to modernize the nuclear weapons infrastructure of the United States. This infrastructure is maintained by the National Nuclear Security Administration (NNSA) – an organization located within DOE. Modernization of the infrastructure is needed to ensure safe, secure, sustainable and cost-effective operations in support of scientific and manufacturing activities. It is also necessary to bolster key scientific, technical and manufacturing capabilities needed to ensure that the U.S. nuclear weapons stockpile remains safe and effective while avoiding the requirement for new nuclear tests. Finally, a strengthened stockpile management program is needed to address known technical problems and to help ensure support for ratification of the New Strategic Arms Reduction Treaty and Comprehensive Test Ban Treaty.

This Memorandum of Agreement (MOA) documents the program and budgeting commitments made by DOE and the DoD (collectively herein the "Parties") in connection with this initiative. The MOA also specifies annual reviews of the program to be carried out jointly by the two Departments under the auspices of the Nuclear Weapons Council (NWC).

II. Statutory Authority

1. DoD enters into this MOA under the authority of 10 U.S.C 113.

2. DOE enters into this MOA under the authority of section 646 of the Department of Energy Organization Act (Pub. L. 95-91), as amended; 42 U.S.C. § 7256.

III. Agreements

1. DoD agrees to work with the Office of Management and Budget to transfer to DOE $5.7 billion of budget authority in Fiscal Years 2011-15 for NNSA's nuclear weapons and Naval Reactors programs. This includes a transfer of $4.5 billion of budget authority to the Weapons Activities/Nuclear Security Enterprise appropriation, including $561 million in FY 11. This also includes transfer of an additional $145 million of budget authority to the Weapons Activities/Nuclear Security Enterprise appropriation for science, technology and engineering activities in the Enhanced Stockpile Stewardship program in FY 12-15 to match an identical DOE investment. If the transfer of budget authority is approved, the modernization activities identified in Attachment 1, which is attached to and constitutes an

integral part of this MOA, will be fully funded through 2015 within the base NNSA budget plus this transfer. Separate from nuclear weapons program activities, DoD intends to transfer an additional $1.1 billion of budget authority for FY 11-15 for Naval Reactors, including $80.6 million in FY 11. These transfers of budget authority are intended to be reflected in the President's Budget for FY 11-15. Attachment 1 details the transfers by year and program.

2. As noted in Attachment 1, DOE agrees to use this transferred budget authority to supplement NNSA funding in order to fully fund the following:

   - Complete the design and begin construction of the Chemistry and Metallurgy Research Facility Replacement (CMRR) nuclear facility (NF) at Los Alamos National Laboratory (LANL) – a facility that conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production. Plan and program to complete construction by 2020, and ramp up to full operations in 2022.
   - Increase pit production capacity and capability at the adjoining PF-4 facility (part of the main plutonium facility) at LANL to demonstrate pit reuse by 2017 and production by 2018-2020. Plan and program to ramp up to a minimum of 50-80 pits/year in 2022.
   - Complete the design and begin construction of the Uranium Processing Facility (UPF) at Y-12 to support production and surveillance of highly-enriched uranium components. Plan and program to complete construction by 2020; ramp up to a minimum of 50-80 Canned Sub Assemblies (CSAs) per year in 2022.
   - Complete the ongoing Life Extension Program (LEP) for the W76 warhead (to be completed by 2017) and LEP for the B61 bomb (first production unit [FPU] by 2017). Completion will free up capacity for other life extension programs.
   - Ensure that capabilities are available so that future warhead life extension programs will allow for increased margin and enhanced warhead safety, security and control.
   - Begin LEP study by FY 11 to explore the path forward for the W78 and the W88 systems (anticipated FPU following the completion of the B61 LEP, currently scheduled for 2020)—one option for which is a common ICBM/SLBM warhead.

3. DOE agrees to provide the resources necessary to fund at sufficient levels scientific, technical and engineering activities related to maintenance assessment and certification capabilities for the stockpile. All budget authority will be identified and designated for this use prior to submission of the President's Budget for FY 2011. Among other things, this budget authority will be prioritized to:

   - Restore sufficient funds for warhead surveillance and for the science and technology that support stockpile assessment and certification in the absence of nuclear testing.
   - Adequately fund directed stockpile work including maintenance, assembly, disassembly and dismantlement activities.
   - Protect the human capital base at U.S. nuclear weapons laboratories —including the ability to design nuclear warheads as well as development and engineering expertise and capabilities—through a stockpile stewardship program that fully exercises these capabilities.

4. Naval Reactors will use $1.1 billion in increased FY 11-15 budget authority to:

   - Design/develop the new reactor plant for the OHIO Class submarine replacement,
   - Design/construct a reactor core and refuel the DOE Land Based Prototype Reactor Plant in New York with technologies and capabilities planned for OHIO replacement core—this will test the manufacturability of the replacement reactor and thereby mitigate technical, cost and schedule risks.

5. DOE also agrees to strictly limit the use of transferred budget authority to support only those elements identified in Attachment 1 in its budget throughout the period from FY 11-15. The DoD target transferred budget authority will become part of the baseline funding for (1) Weapons Activities/National Security Enterprise appropriation aligned to programs in Directed Stockpile Work, Campaigns and Readiness in the Technical Base and Facilities, and (2) Naval Reactors appropriations. Both DoD and DOE agree to make every effort to ensure that Congress appropriates the funds in the amounts and for the purposes identified in this agreement.

6. DOE agrees that the transfer of budget authority from DoD is planned to be a one-time transfer during the period FY 2011-2015 consistent with the 2010 NPR recommendations. During this period, no additional transfer from DoD to DOE for purposes of this MOA shall be effected. NNSA's budget for FY 11-15 reflects planning for these recommendations approved by the President. If future Presidential decisions do not support the activities specified, then this MOA will be revised accordingly. Funding requirements for budgets submitted beyond FY 2015 will be negotiated as needed.

7. NNSA will not require additional resources during this period from DoD to meet the requirements of the NPR, so long as those requirements remain as stated in this MOA. If available funds fall below target amounts, or if costs grow, DOE agrees to work with DoD to adjust target dates so as to carry out the intent of these initiatives as quickly as possible but without any additional DoD funds.

IV. Reviews

1. In order to implement this agreement, and ensure its effective operation, the two Secretaries agree to direct their staffs to conduct and participate in the following reviews:

   - Semi-annual programmatic reviews by the NWC,
   - Annual NNSA programming and budgeting reviews which are conducted at the weapons program element level and include the items in this MOA. Specifically, NNSA will engage the NWC regarding its program of work for the items in Attachment 1, and the annual proposed funding necessary to support this work, to ensure agreement that the commitments of this MOA are being fulfilled. Any disagreements identified by the NWC will be brought to the attention of the Secretaries of Defense and Energy and will be resolved jointly.

2. The Secretary of Defense designates the Under Secretary of Defense (AT&L) as the senior staff contact for carrying out this agreement, in coordination with the Under Secretaries of Defense for Comptroller and for Policy. The Secretary of Energy designates the Under Secretary for Nuclear Security as the senior staff contact for carrying out this agreement, assisted by the Chief Financial Officer.

3. The Secretaries of Defense and Energy agree that the modernization of the U.S. nuclear infrastructure and effective support to the nuclear stockpile are critical to achieving President Obama's vision for a safe, secure and effective nuclear deterrent. The Secretaries fully support this agreement, which represents a key step toward accomplishing required modernization and advancing the national security of the United States.

V. General Provisions

1. This MOA in no way restricts either Party from participating in any activity with other public or private agencies, organizations, or individuals.

2. This MOA is neither a fiscal nor a funds obligation document. Nothing in this MOA authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.

3. This MOA is strictly for internal management purposes for each Party. It is not legally enforceable and shall not be construed to create any legal obligations on the part of either Party. This MOA shall not be construed to provide a private right or cause of action for or by any person or entity.

4. All agreements herein are subject to, and will be carried out in conformance with, all applicable laws, regulations and other legal requirements.

5. This MOA enters into effect upon signature. It may be modified by mutual agreement of the Parties in writing.

6. The Parties may discontinue participation in this MOA in writing at any time.

Signed in duplicate.

FOR THE DEPARTMENT OF DEFENSE:

Robert M. Gates
Secretary of Defense
Date: MAY 3 2010

FOR THE DEPARTMENT OF ENERGY:

Steven Chu
Secretary of Energy
Date: APR - 1 2010

Attachment 1

DoD Budget Authority Target Transfer to NNSA

Item	Added Funding Above NNSA Base ($ millions)					
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total
Weapons Activities/Nuclear Security Enterprise Appropriation						
Infrastructure						
CMRR-NF	151.4	255.0	260.0	242.2	300.0	1,208.6
Uranium Processing Facility	59.8	55.4	135.9	193.4	320.0	764.5
High Explosive Pressing Facility	30.0	30.4	-	-	-	60.4
Neutrons for Material/ Nuclear Science	-	-	-	-	-	-
Life Extension Programs (LEPs)						-
B61 Bomb Stockpile Systems	160.0	131.0	133.0	169.0	192.0	785.0
Follow-on LEP	26.0	56.0	102.0	300.0	300.0	784.0
W76-1 Warhead Quantities	40.0	46.0	46.0	46.0	46.0	224.0
Plutonium Sustainment	36.0	38.0	38.0	39.0	30.0	181.0
Advanced Certification	57.8	85.6	110.6	111.3	79.6	444.9
Enhanced Stockpile Stewardship	0	39.0	33.0	48.0	25.0	145.0
Subtotal, Transfer to Weapons Activities/Nuclear Security Enterprise	**561.0**	**736.4**	**858.5**	**1,148.9**	**1,292.6**	**4,597.4**
Naval Reactors Appropriation						
Reactor Design and Development						
Trident Replacement Reactor	45.4	83.0	122.7	153.8	192.9	597.8
Land-based prototype	35.2	67.9	101.0	125.0	158.0	487.1
Subtotal, Transfer to Naval Reactors	80.6	150.9	223.7	278.8	350.9	1,084.9
Total DOD transfer to NNSA	**641.6**	**887.3**	**1,082.2**	**1,427.7**	**1,643.5**	**5,682.3**

All DOE Current Directives – 11/17/11

DOE O 100.1D, Secretarial Succession, Threat Level Notification, and Successor Tracking (Apr 20, 2007)

This Order establishes the Secretarial Order of Succession pursuant to section 202(a) of the Department of Energy Organization Act and establishes a mechanism for tracking the locations of successors at various threat levels. Cancels DOE O 100.1C.

DOE P 111.1, Departmental Organization Management System (Aug 27, 1996)

Public Law 95-91, 42 United States Code 7101, Department of Energy Organization Act, Section 642 gives to the Secretary of the Department of Energy the responsibility to approve organization changes affecting the number, designation, or mission of Departmental Elements and to approve the addition, deletion, or transfer of missions and/or functions of or between Departmental Elements. In order to streamline the organizational change process, the Secretary has delegate to the Heads of Departmental Headquarters and Field Elements the authority to approve organization changes.

DOE G 120.1-5, Guidelines for Performance Measurement (Jun 30, 1996)

DOE O 130.1, Budget Formulation (Sep 29, 1995)

DOE N 251.45, dated 5/29/02, extends this directive until 5/1/03. Cancels DOE 5100.3, DOE 5100.4, DOE 5100.5, DOE 5100.6A.

DOE G 1324.5B, Implementation Guide for 36 CFR Chapter XII - Subchapter B (Jul 19, 1996)

DOE M 135.1-1A, Department of Energy Budget Execution Funds Distribution and Control Manual (Jan 09, 2006)

The Manual provides the user with a single source for references, definitions, and procedural requirements for distributing and controlling Department of Energy funds. Cancels DOE M 135.1-1.

DOE O 135.1A, Budget Execution Funds Distribution and Control (Jan 09, 2006)

The Order describes Department of Energy systems, requirements, and assignment of responsibilities for control of the Department budget execution process. Cancels DOE O 135.1.

DOE O 137.1B, Plan for Operating in the Event of a Lapse in Appropriations (Sep 30, 2011)

The order established plans and procedures for continuing operations during a lapse in appropriations. Cancels DOE O 137.1A

DOE M 140.1-1B, Interface with the Defense Nuclear Facilities Safety Board (Mar 30, 2001)

This Manual presents the process the Department of Energy will use to interface with the Defense Nuclear Facilities Safety Board (DNFSB) and its staff. Cancels DOE M 140.1-1A.

DOE P 141.1, Department of Energy Management of Cultural Resources (May 02, 2001)

The purpose of this Policy is to ensure that Department of Energy (DOE) programs, including the National Nuclear Security Administration (NNSA), and field elements integrate cultural resources management into their missions and activities. Certified 1-28-11

DOE O 142.2A, Voluntary Offer Safeguards Agreement and Additional Protocol with the International Atomic Energy Agency (Dec 15, 2006)

The Order defines requirements for Department of Energy (DOE) compliance with the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States, the Protocol to the Agreement, the Additional Protocol to the Agreement, and the Subsidiary Arrangements to the Agreement and Additional Protocol. Cancels DOE O 142.2.

DOE M 142.2-1, Manual for Implementation of the Voluntary Offer Safeguards Agreement and Additional Protocol with the International Atomic Energy Agency (Sep 04, 2008)

This Manual provides detailed information for implementing the requirements of DOE O 142.2A, dated 12-15-06; the Agreement Between the United States of America and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in the United States; the Original Protocol to the Agreement; the Additional Protocol to the Agreement signed by the United States and the IAEA on June 12, 1998; and the Interagency Procedures for the Implementation of the U.S.-IAEA Safeguards Agreement.

DOE O 142.3A, Unclassified Foreign Visits and Assignments Program (Oct 14, 2010)

The order defines a program for unclassified foreign national access to DOE sites, information, technologies, and equipment. Cancels DOE O 142.3.

DOE O 142.4, International Commitments Management (Nov 18, 2008)

This Order establishes a process to manage the Department's International Commitments under the administrative direction of the Office of Policy and International Affairs.

DOE O 142.5, Committee on Foreign Investment in the United States (Oct 08, 2010)

The order establishes the requirements and responsibilities for DOE in meeting its statutory obligations for the review of covered transactions filed with the Committee on Foreign Investment in the United States (CFIUS).

DOE O 143.1, Payments in Lieu of Taxes (May 08, 2003)

"To establish general Department of Energy (DOE) procedures and responsibilities with regard to processing applications for payments in lieu of taxes (PILT) to certain State and local governments under the authority of section 168 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2208). Cancels DOE 2100.12A. Certified 1-31-07.

DOE O 144.1, Admin Chg 1, Department of Energy American Indian Tribal Government Interactions and Policy (Jan 16, 2009)

This Order communicates Departmental, programmatic, and field responsibilities for interacting with American Indian Governments and transmits the Department of Energy's American Indian and Alaska Native Tribal Government Policy and its guiding principles, the Framework for Implementation of the Policy. Admin Chg 1 dated 11-6-09. Cancels: DOE O 1230.2

DOE O 150.1, Continuity Programs (May 08, 2008)

The order provides requirements and responsibilities to ensure that the Department is ready to respond promptly, efficiently, and effectively to a continuity event involving facilities, activities, or operations.

DOE O 151.1C, Comprehensive Emergency Management System (Nov 02, 2005)

The Order establishes policy and assigns roles and responsibilities for the Department of Energy (DOE) Emergency Management System. Cancels DOE O 151.1B.

DOE M 151.1-1, Power Marketing Administration Emergency Management Program Manual (Sep 18, 2008)

This Manual establishes emergency management policy and requirements for emergency planning, preparedness, readiness assurance, and response for the Department's Power Marketing Administrations. Cancels DOE O 5500.11.

DOE G 151.1-1A, Emergency Management Fundamentals and the Operational Emergency Base Program (Jul 11, 2007)

The Guide provides information about the emergency management fundamentals imbedded in the requirements of DOE O 151.1C, as well as acceptable methods of meeting the requirements for the Operational Emergency Base Program, which ensures that all DOE facilities have effective capabilities for all emergency response. Cancels DOE G 151.1-1, Volume 1.

DOE G 151.1-2, Technical Planning Basis (Jul 11, 2007)

The Guide assists DOE/NNSA field elements and operating contractors in identifying and analyzing hazards at facilities and sites to provide the technical planning basis for emergency management programs. Cancels DOE G 151.1-1, Volume 2.

DOE G 151.1-3, Programmatic Elements (Jul 11, 2007)

The Guide provides acceptable methods of meeting the requirements of DOE O 151.1C for programmatic elements that sustain the emergency management program and maintain the readiness of the program to respond to an emergency. Cancels DOE G 151.1-1, Volume 5-1, DOE G 151.1-1, Volume 5-2, DOE G 151.1-1, Volume 5-3, DOE G 151.1-1, Volume 5-4, DOE G 151.1-1, Volume 7-1, and DOE G 151.1-1, Volume 7-3.

DOE G 151.1-4, Response Elements (Jul 11, 2007)

The Guide provides acceptable methods for meeting the requirement of DOE O 151.1C for response elements that respond or contribute to response as needed in an emergency. Cancels DOE G 151.1-1, Volume 3-1, DOE G 151.1-1, Volume 3-2, DOE G 151.1-1, Volume 3-3, DOE G 151.1-1, Volume 3-4, DOE G 151.1-1, Volume 4-1, DOE G 151.1-1, Volume 4-2, DOE G 151.1-1, Volume 4-3, DOE G 151.1-1, Volume 4-4, DOE G 151.1-1, Volume 4-5, and DOE G 151.1-1, Volume 4-6.

DOE G 151.1-5, Biosafety Facilities (Jul 11, 2007)

The Guide assists DOE/NNSA field elements and operating contractors in incorporating hazardous biological agents/toxins into emergency management programs, as required by DOE O 151.1C.

DOE O 153.1, Departmental Radiological Emergency Response Assets (Jun 27, 2007)

The order establishes requirements and responsibilities for the DOE/NNSA national radiological emergency response assets and capabilities and Nuclear Emergency Support Team assets. Cancels DOE O 5530.1A, DOE O 5530.2, DOE O 5530.3, DOE O 5530.4, and DOE O 5530.5.

DOE O 200.1A, Information Technology Management (Dec 23, 2008)

The Order identifies the objectives, components, and responsibilities for implementing processes to ensure the effective management of information and information systems within the Department. Cancels DOE O 200.1.

DOE M 200.1-1 Chapter 9, Public Key Cryptography and Key Management (Feb 15, 2000)

The use and management of certificate-based public key cryptography for the Department of Energy (DOE) requires the establishment of a public key infrastructure (PKI). This chapter defines the policy related to roles, requirements, and responsibilities for establishing and maintaining a DOE PKI and the documentation necessary to ensure that all certificates are managed in a manner that maintains the overall trust required to support a viable PKI.

DOE G 200.1-1, Software Engineering Methodology TOC (May 21, 1997)
Table of contents for the guide

DOE G 200.1-1 Ch 1, Introduction (May 21, 1997)
Provides guidance for software engineering, project management, and quality assurance practices and procedures.

DOE G 200.1-1 Ch 2, Lifecycle Model (May 21, 1997)
This chapter describes the lifecycle model used for the Departmental software engineering methodology.

DOE G 200.1-1 Ch 3, Planning Stage (May 21, 1997)
This is the first stage in the lifecycle of a software engineering project.

DOE G 200.1-1 Ch 4, Requirements Definition Stage (May 21, 1997)
This chapter addresses development of a Software Configuration Management Plan to track and control work products, analysis of the system owner/users' business processes and needs, translation of those processes and needs into formal requirements, and planning the testing activities to validate the performance of the software product.

DOE G 200.1-1 Ch 5, Functional Design Stage (May 21, 1997)
The chapter addresses functions and structure of the components that comprise software products.

DOE G 200.1-1 Ch 6, System Design Stage (May 21, 1997)
This chapter addresses translating the user-oriented functional design specifications into a set of technical, computer-oriented system design specifications; and designing the data structure and processes to the level of detail necessary to plan and execute the Programming and Installation Stages.

DOE G 200.1-1 Ch 7, Programming Stage (May 21, 1997)
This chapter addresses plans for the acquisition and installation of operating environment hardware and software and design of a training program.

DOE G 200.1-1 Ch 8, Software Integration and Testing Stage (May 21, 1997)
This chapter addresses interfaces between and among components of the software product.

DOE G 200.1-1 Ch 9, Chapter 9 Installation and Acceptance Stage (May 21, 1997)
This chapter addresses activities required to install the software, data bases, or data that comprise the software product onto the hardware platform at sites of operation.

DOE G 200.1-1 Ch 10, Software Maintenance (May 21, 1997)
This chapter describes an iterative process for conducting software maintenance.

DOE G 200.1-1 App A, Appendix A Glossary (May 21, 1997)
Terms defined

DOE G 200.1-1 App B, Appendix B List of Abbreviations (May 21, 1997)
Acronyms defined

DOE G 200.1-1 App C, Appendix C Conducting Structured Walkthroughs (May 21, 1997)

This guide describes how to conduct a structured walkthroughs during the lifecycle stages of software engineering projects, regardless of hardware platform.

DOE G 200.1-1 App D, Appendix D In-Stage Assessment Process Guide (May 21, 1997)
Defines independent reviews of DOE system development and maintenance projects.

DOE G 200.1-1 App E, Appendix E Stage Exit Process Guide (May 21, 1997)
Describes the standard system development lifecycle (SDLC) methodology used for systems developed and maintained for the Department Of Energy.

DOE G 200.1-1 App F, Appendix F Computer System Retirement Guidelines (May 21, 1997)
The guide establishes the process for the orderly retirement of information systems regardless of software platform or size, both classified and unclassified.

DOE O 200.2, Information Collection Management Program (Oct 11, 2006)
This Order sets forth DOE requirements and responsibilities for implementing the information collection management provisions of the Paperwork Reduction Act of 1995 and the Office of Management and Budgets implementing regulation Controlling Paperwork Burdens on the Public, as contained in 5 CFR 1320.

DOE O 203.1, Limited Personal Use Of Government Office Equipment Including Information Technology (Jan 07, 2005)
The Order establishes requirements and assigns responsibilities for employees' limited personal use of Government resources (office equipment and other resources including information technology) within DOE, including NNSA. The Order is required to provide guidance on appropriate and inappropriate uses of Government resources. This Order was certified 04/23/2009 as accurate and continues to be relevant and appropriate for use by the Department. Certified 4-17-09.

DOE P 205.1, Departmental Cyber Security Management Policy (May 08, 2001)
The Departmental Cyber Security Management (DCSM) Policy was developed to further clarify and support the elements of the Integrated Safeguards and Security Management (ISSM) Policy regarding cyber security. Certified 9-23-10.

DOE O 205.1B, Department of Energy Cyber Security Program (May 16, 2011)
The order sets forth requirements and responsibilities for a Departmental Cyber Security Program.

DOE M 205.1-3, Telecommunications Security Manual (Apr 17, 2006)
For distribution, please contact Peter Leach at 301-903-3957. Cancels DOE M 200.1-1.

DOE O 206.1, Department of Energy Privacy Program (Jan 16, 2009)
The order establishes Departmental implementation of agency statutory and regulatory requirements for privacy, specifically those provided in the Privacy Act of 1974, as amended at Title 5 United States Code (U.S.C.) 552a, Section 208 of the E Government Act of 2002, and Office of Management and Budget directives. Cancels DOE N 206.5.

DOE N 206.4, Personal Identity Verification (Jun 29, 2007)
The Notice defines implementation of Homeland Security Presidential Directive 12 (HSPD-12) related to the secure and reliable identification of DOE Federal and contractor employees. In particular, this Notice concerns the objective of HSPD-12 that requires identification to be

issued based upon sound criteria for verifying an individuals identity. Extended by DOE N 251.74 until 6-29-09. Cancels DOE N 206.3.

DOE O 210.2A, DOE Corporate Operating Experience Program (Apr 08, 2011)
The Order institutes a DOE wide program for the management of operating experience to prevent adverse operating incidents and facilitate the sharing of good work practices among DOE sites.

DOE O 221.1A, Reporting Fraud, Waste and Abuse to the Office of Inspector General (Apr 19, 2008)
The order sets forth requirements and responsibilities for reporting fraud, waste, abuse, misuse, corruption, criminal acts, or mismanagement to the DOE Office of Inspector General. Cancels DOE O 221.1.

DOE O 221.2A, Cooperation with the Office of Inspector General (Feb 25, 2008)
To establish responsibilities and requirements for cooperating with the Department of Energy Office of Inspector General. Cancels DOE O 221.2.

DOE O 221.3A, Establishment of Management Decisions on Office of Inspector General Reports (Apr 19, 2008)
The order establishes the responsibilities and requirements for Department of Energy elements to make management decisions on Office of Inspector General audits and public inspection reports. Cancels DOE O 321.3.

DOE O 224.2A, Auditing of Programs and Operations (Nov 09, 2007)
To set forth audit requirements and responsibilities for the promotion of economy and efficiency in the administration of or the prevention or detection of fraud, waste, and abuse in programs and operations of the Department of Energy. Cancels DOE O 224.2.

DOE O 224.3, Audit Resolution and Follow-Up Program (Jan 24, 2005)
This Order establishes requirements and responsibilities for the management of open audits, findings, and recommendations. Cancels DOE 2300.1B.

DOE O 225.1B, Accident Investigations (Mar 04, 2011)
This Order prescribes organizational responsibilities, authorities, and requirements for conducting investigations of certain accidents occurring at DOE sites, facilities, areas, operations, and activities.

DOE P 226.1B, Department of Energy Oversight Policy (Apr 25, 2011)
The Policy establishes a Department-wide oversight process to protect the public, workers, environment, and national security assets effectively through continuous improvement.

DOE O 226.1B, Implementation of Department of Energy Oversight Policy (Apr 25, 2011)
This Order implements the policy that establishes a Department-wide oversight process to protect the public, workers, environment, and national security assets effectively through continuous improvement.

DOE O 227.1, Independent Oversight Program (Aug 30, 2011)
The order prescribes the requirements and responsibilities for the DOE Independent Oversight Program. Cancels DOE O 470.2B.

DOE O 231.1A Chg 1, Environment, Safety and Health Reporting (Jun 03, 2004)

To ensure timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues as required by law or regulations or as needed to ensure that the Department of Energy (DOE) and National Nuclear Security Administration are kept fully informed on a timely basis about events that could adversely affect the health and safety of the public or the workers, the environment, the intended purpose of DOE facilities, or the credibility of the Department. Cancels DOE O 210.1, DOE O 231.1, DOE O 232.1A. Canceled by DOE O 231.1B. DOE O 231.1B cancels all portions pertaining to environment, safety, and health reporting. Occurrence reporting and processing of operations information provisions remain in effect until January 1, 2012.

DOE O 231.1B, Environment, Safety and Health Reporting (Jun 27, 2011)
The order addresses DOE/NNSA receiving timely, accurate information about events that have affected or could adversely affect the health, safety and security of the public or workers, the environment, the operations of DOE facilities, or the credibility of the Department. Cancels DOE O 231.1A Chg 1, DOE M 231.1-1A Chg 2 and DOE N 234.1.

DOE M 231.1-2, Occurrence Reporting and Processing of Operations Information (Aug 19, 2003)
Provides detailed information for reporting occurrences and managing associated activities at DOE facilities, including NNSA facilities. Cancels DOE M 232.1-1A. Will be canceled January 1, 2012, when DOE O 232.2 is in effect.

DOE G 231.1-1, Occurrence Reporting and Performance Analysis Guide (Aug 20, 2003)
Will be canceled January 1, 2010, when DOE O 232.2 is in effect.

DOE G 231.1-2, Occurrence Reporting Causal Analysis Guide (Aug 20, 2003)
Will be canceled January 1, 2012, when DOE O 232.2 is in effect.

DOE O 232.2, Occurrence Reporting and Processing of Operations Information (Aug 30, 2011)
The order promotes organizational learning consistent with DOE's Integrated Safety Management System goal of enhancing mission safety, and sharing effective practices to support continuous improvement and adaptation to change. Upon the effective date of this directive (January 1, 2012) the following directives are cancelled: DOE M 231.1-2, DOE G 231.1-1, DOE G 231.1-2 and DOE O 231.1A Chg 1

DOE O 2340.1C, Coordination of General Accounting Office Activities (Jun 08, 1992)
Cancels DOE O 2340.1B.

DOE O 241.1B, Scientific and Technical Information Management (Dec 13, 2010)
The purpose of this directive is to ensure that STI is appropriately managed as part of the DOE mission to enable the advancement of scientific knowledge and technological innovation. Cancels DOE O 241.1A and DOE O 241.1A Chg 1.

DOE G 242.1-1, Forms Management Guide for use with DOE O 200.1, Information Management Program (May 08, 2000)
Provides guidance for the development, analysis, approval, and management of forms in the U.S. Department of Energy (DOE).

DOE O 243.1A, Records Management Program (Nov 10, 2011)
To set forth requirements and responsibilities for making and preserving records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the [Department of Energy (DOE)] and designed to furnish the information necessary to protect the legal and financial rights of the Government and persons directly affected by [DOE] activities. 44 United States Code (U.S.C.) 3101.

DOE O 243.2, Vital Records (Feb 02, 2006)

The Order establishes Department-wide requirements, roles and responsibilities for implementing and maintaining a Vital Records program as required by the Federal Records Act in support of the DOE Continuation of Operations Plan.

DOE O 251.1C, Departmental Directives Program (Jan 15, 2009)

To define requirements and responsibilities for implementing the Department of Energy (DOE) Directives Program in support of the Secretary's memorandum of September 10, 2007, Principles Governing Departmental Directives. See also the current list of Directives Requiring Further Documentation, as required by Appendix D of this Order. Cancels DOE P 251.1A, DOE O 251.1B, DOE M 251.1-1B.

DOE N 251.108, Cancellation of DOE O 540.1B (Oct 25, 2011)

Cancels DOE O 540.1B.

DOE N 251.109, Cancellation of DOE G 413.3-11 (Nov 09, 2011)

Cancellation of DOE G 413.3-11, Project Management Lessons Learned

DOE O 252.1A, Technical Standards Program (Feb 23, 2011)

The Order promotes DOE's use of Voluntary Consensus Standards (VCS) as the primary method for application of technical standards and establishes and manages the DOE Technical Standards Program (TSP) including technical standards development, information, activities, issues, and interactions.

DOE P 310.1, Maximum Entry and Mandatory Separation Ages for Certain Security Employees (Oct 11, 2001)

The Policy in response to government-wide Office of Personnel Management regulations regarding establishment of mandatory retirement ages for employees in certain security related positions.

DOE O 311.1B, Equal Employment Opportunity and Diversity Program (Feb 12, 2003)

Provides a centralized, comprehensive source of information for DOE/NNSA employees and applicants regarding the requirements of the Department's equal employment opportunity and diversity program. Cancels DOE O 311.1A.

DOE O 313.1, Management and Funding of the Department's Overseas Presence (Nov 19, 2009)

This Order establishes Department of Energy (DOE), including the National Nuclear Security Administration, requirements and responsibilities governing DOE's Overseas Presence in order to effectively meet national security objectives, including energy security, nuclear security, and scientific discovery and innovation, implemented outside the United States.

DOE N 314.1, DOE-FLEX: DOE's Telework Program (Jul 05, 2011)

The order establishes the requirements and responsibilities for the Department's telework program.

DOE O 320.1 Chg 1, Acquiring and Positioning Human Resources (Sep 06, 2002)

To establish requirements and responsibilities when sending employees on details outside the Department, determining probationary periods for managers and supervisors, providing part-time career employment, conducting reductions in force, promoting and placing candidates in the competitive service, and conducting some other personnel actions. Cancels DOE O 3300.3 and DOE O3335.1C.

DOE O 321.1, Employment of Experts and Consultants (Nov 06, 2006)

To maintain a system of controls and oversight necessary for the DOE to assure compliance with 5, U.S.C. Section 3109, "Employment of Experts and Consultants, Temporary or Intermittent"; Title 5, Code of Federal Regulations, Part 304, "Expert and Consultant Appointments"; and all other relevant rules, regulations, and DOE directives. Cancels DOE O 3304.1A, Employment of Experts and Consultants, dated 6-23-92.

DOE M 321.1-1, Intergovernmental Personnel Act Assignments (Aug 24, 2000)

This Manual implements provisions of the Intergovernmental Personnel Act (IPA) within the Department of Energy (DOE) and establishes requirements, responsibilities, and authority for effecting assignments under the Act.

DOE O 322.1C, Pay and Leave Administration and Hours of Duty (Jan 19, 2011)

The order establishes requirements and responsibilities for the management of pay, including overtime pay and compensatory time, leave administration, time and attendance reporting, and hours of duty. Cancels DOE O 322.1B and DOE O 535.1

DOE O 323.1 Admin Chg 1, Garnishment of Federal Employees' Pay (Aug 01, 2004)

The Order prescribes procedures for collecting from an employee's pay those amounts subject to legal process brought for enforcement of the employee's legal obligations to provide child support and/or make alimony payments and commercial garnishments. Cancels DOE O 2200.11.

DOE O 326.1, Confidential Financial Disclosure Reports (OGE 450) (Dec 09, 2008)

The directive establishes requirements and responsibilities for Departmental elements and employees regarding filing Confidential Financial Disclosure Reports (OGE Form 450) in accordance with the Ethics in Government Act of 1978, as amended.

DOE O 327.1, Furlough or Reduction in Force in the Senior Executive Service (May 15, 2003)

To establish requirements and assign responsibilities for furlough and reduction in force (RIF) of the Senior Executive Service (SES) in the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA). Cancels O DOE 3350.1 Chg 1 and DOE 3351.2 Chg 1.

DOE O 328.1, Human Capital Management Accountability Program (Aug 01, 2008)

The Order establishes requirements, roles and responsibilities for the Human Capital Management Accountability Program (HCMAP) for human resources programs and personnel and ensures that human capital activities are regulatory and procedurally compliant with Federal statutes and Departmental policies.

DOE O 331.1C Admin Chg 1, Employee Performance Management and Recognition Program (Oct 15, 2010)

The Order establishes requirements and responsibilities for the performance management program for all supervisory and non-supervisory employees other than those who are exempt herein or by memorandum. Cancels DOE O 331.1B. Admin Chg 1, 2-16-11.

DOE O 341.1A, Federal Employee Health Services (Oct 18, 2007)

The order establishes requirements and responsibilities for occupational medical, employee assistance, and workers' compensation programs for Federal employees. Cancels DOE O 341.1.

DOE G 341.1-1A, Guide on Federal Employee Occupational Medical Programs (Oct 18, 2007)

This Guide supplements the requirements and responsibilities specified in DOE O 341.1A, and provides preferred implementing methods and procedures. Cancels DOE G 341.1-1.

DOE G 341.1-2A, Guide on Federal Employee Assistance Programs (Oct 18, 2007)
This Guide supplements the requirements and responsibilities specified in DOE O 341.1A. Cancels DOE G 341.1-2.

DOE O 342.1, Grievance Policy and Procedures (Feb 02, 2006)
This Order provides general requirements, instructions, and responsibilities for administering the Department of Energy's administrative grievance system. Cancels DOE O 3771.1.

DOE O 350.1, Chg 3, Contractor Human Resource Management Programs (Sep 30, 1996)
The purpose of this directive is to establish Department of Energy (DOE) responsibilities and requirements for the management and oversight of contractor Human Resource Management (HR) programs. Chg 1, 5-8-98; Chg 2, 11-22-09; Chg 3, 2-23-10

DOE O 350.2B, Use of Management and Operating or Other Facility Management Contractor Employees for Services to DOE in the Washington, D.C. Area (May 31, 2011)
To establish policies and procedures for management of Department of Energy (DOE), including National Nuclear Security Administration (NNSA), management and operating (M&O) and other facility management contractor employees assigned to the Washington, D.C. area. Cancels DOE O 350.2A

DOE O 361.1B, Acquisition Career Management Program (Jan 24, 2008)
The order defines requirements and responsibilities for training, certification, and career development programs for the DOE acquisition workforce. Cancels DOE O 361.1A.

DOE O 3731.1 Chg 1, Suitability, Position Sensitivity Designations, and Related Personnel Matters (Jul 08, 1992)

DOE O 3750.1 Chg 6, Work Force Discipline (Aug 21, 1992)

DOE O 3792.3 Chg 1, Drug-Free Federal Workplace Testing Implementation Program (Aug 21, 1992)

DOE O 410.1, Central Technical Authority Responsibilities Regarding Nuclear Safety Requirements (Aug 28, 2007)
The order establishes Central Technical Authority and Chief of Nuclear Safety/Chief of Defense Nuclear Safety responsibilities and requirements directed by the Secretary of Energy in the development and issuance of Department of Energy regulations and directives that affect nuclear safety.

DOE O 410.2, Management of Nuclear Materials (Aug 17, 2009)
To establish requirements for the lifecycle management of DOE owned and/or managed accountable nuclear materials. Cancels DOE O 5660.1B.

DOE O 412.1A, Work Authorization System (Apr 21, 2005)
To establish a work authorization and control process for work performed by designated site and facility management contractors, and other contractors as determined by the procurement executive, consistent with the budget execution and program evaluation requirements of the Department of Energy's (DOE's) Planning, Programming, Budgeting, and Evaluation process. Cancels DOE O 412.1.

DOE O 413.1B, Internal Control Program (Oct 28, 2008)

This Order clarifies levels of responsibility and accountability within the Department of Energy. Cancels DOE O 413.1A.

DOE O 413.2B Admin Chg 1, Laboratory Directed Research and Development (Apr 19, 2006)

The order establishes DOE requirements for laboratory directed research and development (LDRD) while providing the laboratory director broad flexibility for program implementation. Admin Chg 1: 1-31-11. Certified 7-14-2011.

DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets (Nov 29, 2010)

The purpose of this Order is to a) provide the Department of Energy (DOE) Elements, including the National Nuclear Security Administration (NNSA), with program and project management direction for the acquisition of capital assets with the goal of delivering projects within the original performance baseline (PB), cost and schedule, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health requirements unless impacted by a directed change; and b) implement Office of Management and Budget (OMB) Circulars to include: A-11, Part 7, Capital Programming Guide, which prescribes new requirements and leading practices for project and acquisition management; A-123, Management's Responsibility for Internal Control, which defines management's responsibility for internal control in Federal agencies; and A-131, Value Engineering, which requires that all Federal agencies use Value Engineering (VE) as a management tool. Cancels DOE O 413.3A, Chg 1 dated 6-28-06.

DOE G 413.3-1, Managing Design and Construction Using Systems Engineering for Use with DOE O 413.3A (Sep 23, 2008)

This Guide provides the Department of Energy's federal project directors with the methodologies and tools needed to plan, implement and complete assigned projects using a Systems Engineering approach in accordance with the requirements of DOE O 413.3A, Program and Project Management for the Acquisition of Capital Assets, dated 7-28-06.

DOE G 413.3-2, Quality Assurance Guide for Project Management (Jun 27, 2008)

This Guide provides acceptable approaches for implementing the Quality Assurance requirements and criteria of DOE O 413.3A related to the development and implementation of a Quality Assurance Program for the project.

DOE G 413.3-3, Safeguards and Security for Program and Project Management (Nov 15, 2007)

This Guide provides approaches for implementing security provisions within the functional areas contained in DOE O 413.3A, Program and Project Management for the Acquisition of Capital Assets.

DOE G 413.3-4A, Technology Readiness Assessment Guide (Sep 15, 2011)

The Guide assists individuals and teams involved in conducting Technology Readiness Assessments (TRAs) and developing Technology Maturation Plans (TMPs) for the DOE capital asset projects subject to DOE O 413.3B. Cancels and supersedes DOE G 413.3-4.

DOE G 413.3-5A, U.S. Department of Energy Performance Baseline Guide (Sep 23, 2011)

This guide identifies key PB elements, development processes, and practices; describes the context in which DOE PB development occurs; and suggests ways of addressing the critical elements in PB development.

DOE 413.3-6A, High Performance Sustainable Building (Nov 10, 2011)

This Guide provides approaches for implementing the High Performance Sustainable Building (HPSB) requirements of DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets.

DOE G 413.3-7A, Risk Management Guide (Jan 18, 2011)

This Guide provides non-mandatory risk management approaches for implementing the requirements of DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets. Cancels DOE G 413.3-7.

DOE G 413.3-9, U.S. Department of Energy Project Review Guide for Capital Asset Projects (Sep 23, 2008)

This Guide addresses the various project reviews conducted during the life-cycle of a project based on the stage, complexity and duration of a project. This Guide describes typical reviews, the purpose of each, the timing during the project life-cycle, lines of inquiry, and required documentation.

DOE G 413.3-10, Earned Value Management System (EVMS) (May 06, 2008)

The Guide supports the Departments initiatives to improve program, project, and contract management through the implementation and surveillance of contractors earned value management systems.

DOE G 413.3-12, U.S. Department of Energy Project Definition Rating Index Guide (Jul 22, 2010)

This Guide assists individuals and teams involved in conducting assessments of project definition (i.e., how well front-end planning has been conducted to define project scope) using a numerical project management tool developed by the Construction Industry Institute (CII), tailored for DOE use. Called the Project Definition Rating Index (PDRI), the PDRI is a simple but powerful tool that facilitates the measurement of the degree of scope definition for completeness for traditional construction projects, both nuclear and non-nuclear.

DOE G 413.3-13, U.S. Department of Energy Acquisition Strategy Guide for Capital Assets Projects (Jul 22, 2008)

This Guide serves as a tool for federal project directors developing a project acquisition strategy document.

DOE G 413.3-15, Department of Energy Guide for Project Execution Plans (Sep 12, 2008)

This directive provides guidance for the federal project director to produce a useful and flexible plan.

DOE G 413.3-16A, Project Completion/Closeout Guide (Oct 26, 2011)

The guide provides nonmandatory approaches for implementing the requirements of DOE O 413.3B.

DOE G 413.3-17, Mission Need Statement Guide (Jun 20, 2008)

The guide supports DOE O 413.3A, Program and Project Management for the Acquisition of Capital Assets, dated 7-28-06, by providing suggested content, definitions, and examples for writing a clear statement to support an acquisition executive's decision to initiate exploration of options to fulfill a capability gap, which may include a capital asset acquisition.

DOE G 413.3-18, Integrated Project Teams Guide for Use with DOE O 413. 3A (Sep 24, 2008)

This Guide provides those responsible for program and project management with the information and perspective needed to successfully implement the requirements of DOE O

413.3A relating to the use of integrated project teams to achieve improved project outcomes and efficiency.

DOE G 413.3-19 Admin Chg 1, Staffing Guide for Project Management (Oct 12, 2011)
This Guide provides an approach to determining the appropriate level and type of federal personnel needed to effectively plan, direct, and oversee project execution. Supersedes DOE G 413.3-19.

DOE G 413.3 20, Change Control Management Guide (Jul 29, 2011)
The Guide provides a suggested approach and uniform guidance for managing project and contract changes through applying the requirements of DOE O 413.3B.

DOE G 413.3-21, Cost Estimating Guide (May 09, 2011)
This Guide provides uniform guidance and best practices that describe the methods and procedures that could be used in all programs and projects at DOE for preparing cost estimates.

DOE O 414.1D, Quality Assurance (Apr 25, 2011)
The purpose of the Order is to ensure that DOE, including NNSA, products and services meet or exceed customers' requirements and expectations. Cancels DOE O 414.1C.

DOE G 414.1-1B, Management and Independent Assessments Guide for Use with 10 CFR Part 830, Subpart A, and DOE O 414.1C, Quality Assurance; DOE M 450.4 -1, Integrated Safety Management System Manual; and DOE O 226.1A, Implementation of DOE Oversight Policy (Sep 27, 2007)
This Guide provides information on establishing processes for performing effective assessments. The revision to Guide reflects updated assessment practices, international standards, and changes in DOE expectations. Cancels DOE G 414.1-1A. Certified 11-18-10.

DOE G 414.1-2B Admin Chg 1, Quality Assurance Program Guide (Aug 16, 2011)
This Guide provides information on principles, requirements, and practices used to establish and implement an effective Quality Assurance Program. Cancels DOE G 414.1-2A, DOE G 414.1-3 and DOE G 414.1-5. Admin Chg 1, dated 9-27-11.

DOE G 414.1-4, Safety Software Guide for Use with 10 CFR 830, Subpart A, Quality Assurance Requirements, and DOE O 414.1C, Quality Assurance (Jun 17, 2005)
This Guide provides acceptable methods for implementing the safety software quality assurance requirements of draft DOE O 414.1C, Quality Assurance. Certified 11-3-10

DOE P 420.1, Department of Energy Nuclear Safety Policy (Feb 08, 2011)
The purpose is to document the DOE's nuclear safety policy. Cancels SEN-35-91.

DOE O 420.1B Chg 1, Facility Safety (Dec 22, 2005)
The order establishes facility and programmatic safety requirements for nuclear and explosives safety design criteria, fire protection, criticality safety, natural phenomena hazards (NPH) mitigation, and the System Engineer Program.Chg 1 incorporates the use of DOE-STD-1189-2008, Integration of Safety into the Design Process, mandatory for Hazard Category 1, 2 and 3 nuclear facilities.

DOE G 420.1-1, Nonreactor Nuclear Safety Design Criteria and Explosive Safety Criteria Guide for Use with DOE O 420.1, Facility Safety (Mar 28, 2000)
This Guide provides guidance on the application of requirements for nonreactor nuclear facilities and explosives facilities of Department of Energy (DOE) O 420.1, Facility Safety, Section 4.1, Nuclear and Explosives Safety Design Criteria.

DOE G 420.1-2, Guide for the Mitigation of Natural Phenomena Hazards for DOE Nuclear Facilities and NonNuclear Facilities (Mar 28, 2000)

This document provides guidance in implementing the Natural Phenomena Hazard (NPH) mitigation requirements of DOE O 420.1, FACILITY SAFETY, Section 4.4, "Natural Phenomena Hazards Mitigation." This Guide does not establish or invoke any new requirements. Any apparent conflicts arising from the NPH guidance would defer to the requirements in DOE O 420.1.

DOE G 420.1-3, Implementation Guide for DOE Fire Protection and Emergency Services Programs for Use with DOE O 420.1B, Facility Safety (Sep 27, 2007)

This Guide facilitates the implementation of requirements of DOE O 420.1B by providing an acceptable approach to meet the requirements for Fire Protection Programs. Cancels DOE G 440.1-5.

DOE O 420.2C, Safety of Accelerator Facilities (Jul 21, 2011)

The order defines accelerators and establishes accelerator specific safety requirements and approval authorities which, when supplemented by other applicable safety and health requirements, promote safe operations to ensure protection of workers, the public, and the environment. Cancels DOE O 420.2B.

DOE G 420.2-1, Accelerator Facility Safety Implementation Guide for DOE O 420.2B, Safety of Accelerator Facilities (Jul 01, 2005)

This document is an aid to understanding and meeting the requirements of DOE O 420.2B, Safety of Accelerator Facilities, dated 7/23/04. It does not impose requirements beyond those stated in that Order or any other DOE Order.

DOE G 421.1-2, Implementation Guide for Use in Developing Documented Safety Analyses to Meet Subpart B of 10 CFR 830 (Oct 24, 2001)

This Guide elaborates on the documented safety analysis (DSA) development process and the safe harbor provisions of the Appendix to10 CFR 830 Subpart B. Title 10 Code of Federal Regulations (CFR) Part 830, Subpart B, 'Safety Basis Requirements,' requires the contractor responsible for a Department of Energy (DOE) nuclear facility to analyze the facility, the work to be performed, and the associated hazards and to identify the conditions, safe boundaries, and hazard controls necessary to protect workers, the public, and the environment from adverse consequences.

DOE O 422.1, Conduct of Operations (Jun 29, 2010)

This Order defines the requirements for establishing and implementing Conduct of Operations Programs at Department of Energy (DOE), including National Nuclear Security Administration (NNSA), facilities and projects. Cancels DOE O 5480.19.

DOE G 423.1-1A, Implementation Guide for Use in Developing Technical Safety Requirements (Nov 03, 2010)

This Guide provides elaboration for the content of TSRs. Section 10 CFR 830.205 of the Nuclear Safety Management rule, requires Department of Energy (DOE) contractors responsible for category 1, 2, and 3 DOE nuclear facilities to develop Technical Safety Requirements (TSRs). These TSRs identify the limitations to each DOE owned, contractor operated nuclear facility based on the documented safety analysis (DSA) and any additional safety requirements established for the facility.

DOE G 424.1-1B, Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements (Apr 08, 2010)

This Guide, including its attachments, provides information to assist in the implementation of Title 10 Code of Federal Regulations (CFR) Section 830.203, "Unreviewed Safety Question Process," of the Nuclear Safety Management Rules for Category 1, 2, and 3 nuclear facilities owned or operated by the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA).

DOE O 425.1D, Verification of Readiness to Start Up or Restart Nuclear Facilities (Apr 16, 2010)

The order establishes requirements for verifying readiness for startup of new Hazard Category 1, 2, and 3 nuclear facilities, activities, and operations, and for restart of existing Hazard Category 1, 2, and 3 nuclear facilities, activities, and operations that have been shut down. Cancels DOE O 425.1C.

DOE O 426.1, Chg 1, Federal Technical Capability (Sep 20, 2011)

To define requirements and responsibilities for meeting the Department of Energy (DOE) commitment to recruiting, deploying, developing, and retaining a technically competent workforce that will accomplish DOE missions in a safe and efficient manner through the Federal Technical Capability Program (FTCP). Cancels DOE M 426.1-1A and DOE P 426.1, Chg 1, 9-20-2011.

DOE O 426.2, Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities (Apr 21, 2010)

The order establishes selection, training, qualification, and certification requirements for contractor personnel who can impact the safety basis through their involvement in the operation, maintenance, and technical support of Hazard Category 1, 2, and 3 nuclear facilities. Cancels DOE O 5480.20A

DOE O 430.1B Chg 2, Real Property and Asset Management (Sep 24, 2003)

The directive establishes an integrated corporate-level, performance based approach to the life-cycle management of our real property assets. It links real property asset planning, programming, budgeting and evaluation to the Department's multi-faceted missions. Successful implementation of this order will enable the Department to carry out stewardship responsibilities, and will ensure that facilities and infrastructure are properly sized and in a condition to meet our mission requirements today and in the future.

DOE G 430.1-1 Chp 1, Introduction (Mar 28, 1997)

DOE G 430.1-1 Chp 2, Cost Estimation Package (Mar 28, 1997)

DOE G 430.1-1 Chp 3, Stages of Project Development (Mar 28, 1997)

DOE G 430.1-1 Chp 4, Types of Cost Estimates (Mar 28, 1997)

DOE G 430.1-1 Chp 5, Cost Codes and the Work Breakdown Structure (Mar 28, 1997)

DOE G 430.1-1 Chp 6, Project Functions and Activities Definitions for Total Project Cost (Mar 28, 1997)

DOE G 430.1-1 Chp 7, Direct/Indirect Costs (Mar 28, 1997)

DOE G 430.1-1 Chp 8, Startup Costs (Mar 28, 1997)

DOE G 430.1-1 Chp 9, Operating Costs (Mar 28, 1997)

DOE G 430.1-1 Chp 10, Escalation (Mar 28, 1997)

DOE G 430.1-1 Chp 11, Contingency (Mar 28, 1997)

DOE G 430.1-1 Chp 12, The Schedule (Mar 28, 1997)

DOE G 430.1-1 Chp 13, Check Estimates and Independent Costs (Mar 28, 1997)

DOE G 430.1-1 Chp 14, Project Controls (Mar 28, 1997)

DOE G 430.1-1 Chp 15, Estimating Methods (Mar 28, 1997)

DOE G 430.1-1 Chp 16, Example Cost Codes for Construction Projects (Mar 28, 1997)

DOE G 430.1-1 Chp 17, Example of Environmental Restoration Code of Accounts (Mar 28, 1997)

DOE G 430.1-1 Chp 18, Use of Cost Estimating Relationships (Mar 28, 1997)

DOE G 430.1-1 Chp 19, Data Collection and Normalization for the Development of Cost Estimating Relationships (Mar 28, 1997)

DOE G 430.1-1 Chp 20, Estimating Specialty Costs (Mar 28, 1997)

DOE G 430.1-1 Chp 21, Learning Curve (Mar 28, 1997)

DOE G 430.1-1 Chp 22, Cost Model and Cost Estimating Software (Mar 28, 1997)

DOE G 430.1-1 Chp 23, Life Cycle Cost Estimate (Mar 28, 1997)

DOE G 430.1-1 Chp 24, Activity Based Costing (Mar 28, 1997)

DOE G 430.1-1 Chp 25, Guidelines for Engineering, Design, and Inspection Costs (Mar 28, 1997)

DOE G 430.1-1 TOC, Table of Contents (Mar 28, 1997)

DOE G 430.1-1 App A, Dictionary (Mar 28, 1997)

DOE G 430.1-1 App B, References (Mar 28, 1997)

DOE G 430.1-1 App C, Examples of Cost Estimation Packages (Mar 28, 1997)

DOE G 430.1-2, Implementation Guide for Surveillance and Maintenance during Facility Transition and Disposition (Sep 29, 1999)

As DOE facilities complete mission operations and are declared excess, they pass into a transition phase that ultimately prepares them for disposition. The disposition phase of a facility's life cycle usually includes deactivation, decommissioning, and surveillance and maintenance (S&M) activities.

DOE G 430.1-3, Deactivation Implementation Guide (Sep 29, 1999)

As DOE facilities complete mission operations and are declared excess, they pass into a transition phase which ultimately prepares them for disposition. The disposition phase of a facility's life cycle usually includes deactivation, decommissioning, and surveillance and maintenance (S&M) activities.

DOE G 430.1-4, Decommissioning Implementation Guide (Sep 02, 1999)

The Department of Energy (DOE) faces an enormous task in the disposition of the nation's excess facilities. Many of these facilities are large and complex and contain potentially hazardous substances. As DOE facilities complete mission operations and are declared excess, they pass into a transition phase which ultimately prepares them for disposition. The disposition phase of a facility's life-cycle usually includes deactivation, decommissioning, and surveillance and maintenance (S&M) activities.

DOE G 430.1-5, Transition Implementation Guide (Apr 24, 2001)

This Guide was prepared to aid in the development, planning, and implementation of requirements and activities during the transition phase at Department of Energy (DOE) facilities that have been declared or are forecast to become excess to any future mission requirements.

DOE O 433.1B, Maintenance Management Program for DOE Nuclear Facilities (Apr 21, 2010)

The order defines the safety management program required by 10 CFR 830.204(b)(5) for maintenance and the reliable performance of structures, systems and components that are part of the safety basis required by 10 CFR 830.202 at hazard category 1, 2 and 3 DOE nuclear facilities. Cancels DOE O 433.1A

DOE G 433.1-1A, Nuclear Facility Maintenance Management Program Guide for Use with DOE O 433.1B (Sep 12, 2011)

The guide provides acceptable approaches for implementing requirements for Nuclear Maintenance Management Programs (NMMPs) set forth in DOE O 433.1B. Cancels DOE G 433.1-1.

DOE P 434.1, Conduct and Approval of Select Agent and Toxin Work at Department of Energy Sites (Jun 05, 2009)

The purpose of this policy is to establish the Departments expectations for the establishment and operation of DOE research laboratories utilizing select agents and toxins (as regulated by the United States Department of Health and Human Services), hereinafter called LABS, and to ensure future policy needs for the operation, coordination, and oversight of these LABS.

DOE O 435.1 Chg 1, Radioactive Waste Management (Jul 09, 1999)

The objective of this Order is to ensure that all Department of Energy (DOE) radioactive waste is managed in a manner that is protective of worker and public health and safety and the environment. (Change 1 added to the Order 8/28/2001). Cancels DOE O 5820.2A. Certified 1-9-07.

DOE N 435.1, Contact-Handled and Remote-Handled Transuranic Waste Packaging (Aug 15, 2011)

Provides specific instructions for packaging and/or repackaging contact-handled transuranic (CH-TRU) and remote-handled transuranic (RH-TRU) waste in a manner consistent with DOE O 435.1, Radioactive Waste Management, DOE M 435.1-1 Chg 1, Radioactive Waste Management Manual, CH-TRU and RH-TRU waste transportation requirements, and Waste Isolation Pilot Plant (WIPP) programmatic requirements.

DOE M 435.1-1 Admin Chg 2, Radioactive Waste Management Manual (Jul 09, 1999)

This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. Change 1 dated 6/19/01 removes the requirement that Headquarters is to be notified and the Office of Environment, Safety and Health consulted for exemptions for use of non-DOE treatment facilities. Certified 1-9-07. Admin Chg 2, 6-8-11.

DOE G 435.1-1, Crosswalk Tables DOE Order 5820.2A vs. DOE O 435.1/M 4 35.1-1 (Jul 09, 1999)

DOE G 435.1-1 Appendix A, Technical Basis and Considerations for DOE M 435.1-1 (Appendix A) (Jul 09, 1999)

DOE G 435.1-1 Chapter 1, General Responsibilities and Requirements (Jul 09, 1999)

The material presented in this guide provides suggestions and acceptable ways of implementing DOE M 435.1-1 and should not be viewed as additional or mandatory requirements. The objective of the guide is to ensure that responsible individuals understand what is necessary and acceptable for implementing the requirements of DOE M 435.1-1.

DOE G 435.1-1 Chapter 2, High-Level Waste Requirements (Jul 09, 1999)

DOE G 435.1-1 Chapter 3, Transuranic Waste Requirements (Jul 09, 1999)

DOE G 435.1-1 Chapter 4, Low-Level Waste Requirements (Jul 09, 1999)

DOE O 436.1, Departmental Sustainability (May 02, 2011)

The order defines requirements and responsibilities for managing sustainability DOE to ensure that the Department carries out its missions in a sustainable manner that addresses national energy security and global environmental challenges, and advances sustainable, efficient and reliable energy for the future; institute wholesale cultural change to factor sustainability and greenhouse gas (GHG) reductions into all DOE corporate management decisions; and ensure that DOE achieves the sustainability goals established in its Strategic Sustainability Performance Plan. Cancels DOE O 450.1A and DOE O 430.2B

DOE O 440.1B, Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees (May 17, 2007)

The Order establishes the framework for an effective worker protection program that will reduce or prevent injuries, illnesses, and accidental losses by providing Department of Energy (DOE), including National Nuclear Security Administration (NNSA), Federal workers with a safe and healthful workplace. Cancels DOE O 440.1A. Certified 6/17/2011.

DOE M 440.1-1A, DOE Explosives Safety Manual (Jan 09, 2006)

The Manual describes the Departments explosive safety requirements applicable to operations involving the development, testing, handling, and processing of explosives or assemblies containing explosives. Cancels DOE M 440.1-1.

DOE G 440.1-1B, Worker Safety and Health Program for DOE (Including the National Nuclear Security Administration) Federal and Contractor Employees (Oct 20, 2011)

This document was developed to assist the Department of Energy (DOE or the Department) Federal and contractor employees in effectively developing, managing, and implementing a worker safety and health program.

DOE G 440.1-7A, Implementation Guide for use with 10 CFR Part 850, Chronic Beryllium Disease Prevention Program (Jan 04, 2001)

The Department of Energy (DOE) has established regulatory requirements for the Chronic Beryllium Disease Prevention Program (CBDPP) in Title 10 of the Code of Federal Regulations (CFR), Part 850 (10 CFR 850) [64 Federal Register (FR) 68854]. Cancels DOE G 440.1-7. Certified 9-23-10.

DOE O 440.2C Admin Chg 1, Aviation Management and Safety (Jun 15, 2011)

To establish a policy framework that will ensure safety, efficiency and effectiveness of government or contractor aviation operations.

DOE G 440.2B-2A, Implementation Guide - Aviation Management, Operations, Maintenance, Security, and Safety for Use with DOE O 440.2B Change 1, Aviation Management and Safety (Oct 17, 2008)

This Guide provides detailed information to help all personnel, responsible for a part of the aviation program, understand and comply with the rules and regulations applicable to their assignments. Cancels DOE G 440.2B-2.

DOE M 441.1-1, Nuclear Material Packaging Manual (Mar 07, 2008)

The manual provides detailed packaging requirements for protecting workers from exposure to nuclear materials stored outside of an approved engineered contamination barrier. Certified 11-18-10.

DOE G 441.1-1C Admin Chg 1, Radiation Protection Programs Guide for Use with Title 10, Code of Federal Regulations, Part 835, Occupational Radiation Protection (May 19, 2008)

Provides guidance for implementing the provisions of the functional areas contained in 10 CFR 835. The revision to the guide reflects changes in the June 2007 amendment to 10 CFR 835, Worker Safety and Health Program. Cancels DOE G 441.1-1B. Admin Chg 1 dated 7-8-11.

DOE O 442.1A, Department of Energy Employee Concerns Program (Jun 06, 2001)

Cancels: DOE O 442.1 and DOE 5480.29

DOE G 442.1-1, Department of Energy Employee Concerns Program Guide (Feb 01, 1999)

DOE G 442.1-1 implements DOE O 442.1.

DOE O 442.2, Differing Professional Opinions for Technical Issues Involving Environment, Safety and Health (Jul 29, 2011)

The Order establishes the DOE Differing Professional Opinion process for employees to raise technical concerns related to environment, safety, and health which cannot be resolved using routine processes. Cancels DOE P 442.1 and DOE M 442.1-1.

DOE O 443.1B, Protection of Human Research Subjects (Mar 17, 2011)

The order establishes Department of Energy (DOE) procedures and responsibilities for implementing the policy and requirements set forth in Title 10 Code of Federal Regulations (CFR) Part 745, Protection of Human Subjects, 45 CFR Part 46, and the Secretarial Policy Memorandum on Military or Intelligence-Related Human Subject Research, December 9, 2009. Cancels DOE O 443.1A and DOE P 443.1A.

DOE O 450.2, Integrated Safety Management (Apr 25, 2011)

The order ensures that DOE/NNSA, systematically integrates safety into management and work practices at all levels, so that missions are accomplished efficiently while protecting the workers, the public, and the environment.

DOE P 450.4A, Integrated Safety Management Policy (Apr 25, 2011)
The policy establishes DOE's expectation for safety, including integrated safety management that will enable the Department's mission goals to be accomplished efficiently while ensuring safe operations at all departmental facilities and activities.

DOE G 450.4-1C, Integrated Safety Management System Guide (Sep 29, 2011)
The guide provide DOE line management information useful for implementing the provisions of DOE P 450.4A and the requirements and responsibilities of DOE O 450.2. Cancels and supersedes DOE G 450.4-1B and DOE G 450.3-3.

DOE O 451.1B Chg 2, National Environmental Policy Act Compliance Program (Jun 25, 2010)
This Order establishes DOE internal requirements and responsibilities for implementing the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and the DOE NEPA Implementing Procedures (10 CFR Part 1021). Chg 1 (9-28-01) reflects the Under Secretary/Administrator of the National Nuclear Security Administration (NNSA) approval of certain NNSA environmental impact statements. 9/28/2001. Chg 2 (6-25-10) reflects changes to Deputy Secretary Policy and DOE organization.

DOE O 452.1D, Nuclear Explosive and Weapon Surety Program (Apr 14, 2009)
This Order provides requirements and responsibilities to prevent unintended/unauthorized detonation and deliberate unauthorized use of nuclear explosives. Cancels DOE O 452.1C.

DOE O 452.2D, Nuclear Explosive Safety (Apr 14, 2009)
This Order establishes requirements to implement the nuclear explosive safety elements of DOE O 452.1D, Nuclear Explosive and Weapon Surety Program, for routine and planned nuclear explosive operations. Cancels DOE O 452.2C.

DOE M 452.2-1A, Nuclear Explosive Safety Manual (Apr 14, 2009)
This Manual provides supplemental details to support the requirements of DOE O 452.2D, Nuclear Explosive Safety. Cancels DOE M 452.2-1.

DOE M 452.2-2, Nuclear Explosive Safety Evaluation Processes (Apr 14, 2009)
This Manual provides supplemental details to support the nuclear explosive safety evaluation requirement of DOE O 452.2D, Nuclear Explosive Safety.

DOE O 452.3, Management of the Department of Energy Nuclear Weapons Complex (Jun 08, 2005)
The Order defines and affirms the authorities and responsibilities of the National Nuclear Security Administration (NNSA) for the management of the Department of Energy Nuclear Weapons Complex and emphasizes that the management of the United States nuclear weapons stockpile is the DOE's highest priority for the NNSA and the DOE Nuclear Weapons Complex. Cancels DOE O 5600.1.

DOE O 452.4B, Security and Use Control of Nuclear Explosives and Nuclear Weapons (Jan 22, 2010)
This Order establishes requirements to implement the nuclear explosive security and use control elements of DOE O 452.1D, Nuclear Explosive and Weapon Surety (NEWS) Program, to ensure authorized use, when directed by proper authority, and protect against deliberate unauthorized acts/deliberate unauthorized use.

DOE O 452.6A, Nuclear Weapon Surety Interface with the Department of Defense (May 14, 2009)
This Order establishes Department of Energy and National Nuclear Security Administration requirements and responsibilities for addressing joint nuclear weapon and nuclear weapon system surety activities in conjunction with the Department of Defense. Cancels DOE O 452.6.

DOE O 452.7, Protection of Use Control Vulnerabilities and Designs (May 14, 2010)
The order establishes the policy, process and procedures for control of sensitive use control information in nuclear weapon data (NWD) categories Sigma 14 and Sigma 15 to ensure that dissemination of the information must be restricted to individuals with valid need to know. Cancels DOE M 452.4-1A

DOE O 452.8, Control of Nuclear Weapon Data (Jul 21, 2011)
The directive establishes the policy, process and procedures for control of nuclear weapon data to ensure that dissemination of the information is restricted to individuals with appropriate clearances, approved authorization and valid need-to-know in keeping with the Atomic Energy Act (as amended) stipulation of ensuring common defense and security. Cancels DOE O 5610.2.

DOE P 454.1, Use of Institutional Controls (Apr 09, 2003)
The Policy ensures that the Department of Energy will use institutional controls in the management of resources, facilities and properties under its control, and in implementing its programmatic responsibilities. Certified 1-28-11.

DOE G 454.1-1, Institutional Controls Implementation Guide for Use with DOE P 454.1, Use of Institutional Controls (Oct 14, 2005)
This Guide provides information to assist Department of Energy program and field offices in understanding what is necessary and acceptable for implementing the provisions of DOE P 454.1, Use of Institutional Controls. Certified 1-28-11.

DOE P 455.1, Use of Risk-Based End States (Jul 15, 2003)
The policy addresses conducting cleanup that is aimed at, and achieves, clearly defined, risk-based end states.

DOE P 456.1, Secretarial Policy Statement on Nanoscale Safety (Sep 15, 2005)
This Policy establishes a framework for working safely with nanomaterials. Certified 9-23-10.

DOE O 456.1, The Safe Handling of Unbound Engineered Nanoparticles (Jun 06, 2011)
To establish requirements and assign responsibilities for the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA), activities involving unbound engineered nanoparticles (UNP). Cancels DOE N 456.1.

DOE O 457.1, Nuclear Counterterrorism (Feb 07, 2006)
The Order defines requirements for the protection of sensitive improvised nuclear device information and provides a framework to support DOE activities related to nuclear counterterrorism. (A supplemental DOE Manual, Control of and Access to Improvised Nuclear Device Information, provides requirements and procedures for protecting Sigma 20 information. The Manual is Official Use Only, and is not available on the Directives Portal. The point of contact for the Manual is Randall Weidman, NA-121.2, 202-586-4582.)

DOE M 457.1-1, Control of Improvised Nuclear Device Information (Aug 10, 2006)
This Manual is for OFFICIAL USE ONLY and will not be distributed on the Directives Portal. For distribution please contact Randall Weidman, 202-586-4582, internet:

DOE O 458.1 Chg 2, Radiation Protection of the Public and the Environment (Jun 06, 2011)

The order establishes requirements to protect the public and the environment against undue risk from radiation associated with radiological activities conducted under the control of DOE pursuant to the Atomic Energy Act of 1954, as amended. DOE O 458.1 and DOE O 458.1 Admin Chg 2 cancel DOE 5400.5 in its entirety.

DOE O 460.1C, Packaging and Transportation Safety (May 14, 2010)

The order establishes safety requirements for the proper packaging and transportation of DOE, including NNSA, offsite shipments and onsite transfers of radioactive and other hazardous materials and for modal transportation. Cancels DOE O 460.1B, 5-14-10

DOE G 460.1-1, Implementation Guide for Use with DOE O 460.1A, Packaging and Transportation Safety (Jun 05, 1997)

This Guide provides information concerning the use of current principles and practices, including regulatory guidance from the U. S. Department of Transportation and the U. S. Nuclear Regulatory Commission, where available, to establish and implement effective packaging and transportation safety programs.

DOE G 460.1-1 Att, Packaging and Transportation Attachments (Jun 05, 1997)

Attachments to DOE G 460.1-1

DOE O 460.2A, Departmental Materials Transportation and Packaging Management (Dec 22, 2004)

The Order establishes requirements and responsibilities for management of Department of Energy (DOE), including National Nuclear Security Administration (NNSA), materials transportation and packaging to ensure the safe, secure, efficient packaging and transportation of materials, both hazardous and nonhazardous. Cancels DOE O 460.2 Chg 1 DOE O 460.2 Chg 1

DOE M 460.2-1A, Radioactive Material Transportation Practices Manual (Jun 04, 2008)

This Manual establishes standard transportation practices for the Department of Energy, including National Nuclear Security Administration to use in planning and executing offsite shipments of radioactive materials and waste. The revision reflects ongoing collaboration of DOE and outside organizations on the transportation of radioactive material and waste. Cancels DOE M 460.2-1.

DOE G 460.2-1, Implementation Guide for Use with DOE O 460.2 Departmental Materials Transportation and Packaging Management (Nov 15, 1996)

The purpose of this guide is to assist those responsible for transporting and packaging Department materials, and to provide an understanding of Department policies on activities which supplement regulatory requirements.

DOE O 461.1B, Packaging and Transportation for Offsite Shipment of Materials of National Security Interest (Dec 20, 2010)

The purpose of this Order is to make clear that the packaging and transportation of all offsite shipments of materials of national security interest for DOE must be conducted in accordance with DOT and Nuclear Regulatory Commission (NRC) regulations that would be applicable to comparable commercial shipments, except where an alternative course of action is identified in this Order. Cancels DOE O 461.1A.

DOE O 461.2, Onsite Packaging and Transfer of Materials of National Security Interest (Oct 31, 2010)

The order prescribes requirements and responsibilities for identifying and mitigating undue risk of onsite transfers that are non compliant with U.S. Department of Transportation and Nuclear

Regulatory Commission regulations. Cancels DOE O 461.1A and DOE M 461.1-1, Administrative Change 1.

DOE O 462.1, Import and Export of Category 1 and 2 Radioactive Sources and Aggregated Quantities (Nov 10, 2008)

This Order has been developed to provide requirements and responsibilities pertaining to the International Atomic Energy Agency CODEOC/2004, Code of Conduct on the Safety and Security of Radioactive Sources.

DOE P 470.1A, Safeguards and Security Program (Dec 29, 2010)

The Safeguards and Security Program ensures that the Department of Energy efficiently and effectively meets all its obligations to protect Special Nuclear Material, other nuclear materials, classified matter, sensitive information, government property, and the safety and security of employees, contractors, and the general public. Cancels DOE P 470.1.

DOE O 470.3B, Graded Security Protection (GSP) Policy (Aug 12, 2008)

This Order is classified as (Secret // RD // NOFORN) and will not be available on the Directives portal. For distribution, contact John Fitzgibbons, 301-903-1361, john.fitzgibbons@hq.doe.gov. Cancels DOE O 470.3A. Certified 5-10-11.

DOE O 470.4B, Safeguards and Security Program (Jul 26, 2011)

To establish responsibilities for the U.S. Department of Energy (DOE) Safeguards and Security (S&S) Program, and to establish program planning and management requirements for the S&S Program. Cancels DOE O 470.4A, DOE M 470.4-1, Chg. 2, and DOE O 142.1.

DOE O 471.1B, Identification and Protection of Unclassified Controlled Nuclear Information (Mar 01, 2010)

The Order provides requirements and responsibilities for identifying and protecting the unauthorized dissemination of Unclassified Controlled Nuclear Information. Cancels DOE O 471.1A and DOE M 471.1-1.

DOE O 471.3 Admin Chg 1, Identifying and Protecting Official Use Only Information (Apr 09, 2003)

The order establishes a program within DOE and NNSA to identify certain unclassified controlled information as Official Use Only (OUO) and to identify, mark, and protect documents containing such information. Chg 1 dated 1-12-11.

DOE M 471.3-1 Admin Chg 1, Manual for Identifying and Protecting Official Use Only Information (Jan 13, 2011)

The manual provides detailed requirements to supplement DOE O 471.3. Original publication dated 4-9-03.

DOE O 471.5, Special Access Programs (Mar 29, 2011)

This Order is for OFFICIAL USE ONLY and will not be distributed on the Directives' Portal. For distribution, please contact the Executive Secretary of the Special Access Program Oversight Committee at 202-586-6775.

DOE O 471.6, Information Security (Jun 20, 2011)

The protection and control of classified information is critical to our nation's security. This Order establishes requirements and responsibilities for Department of Energy (DOE) Departmental Elements, including the National Nuclear Security Administration (NNSA), to protect and control classified information as required by statutes, regulation, Executive Orders,

government-wide policy directives and guidelines, and DOE policy and directives. Cancels DOE M 470.4-4A Chg except for Section D.

DOE O 472.2, Personnel Security (Jul 27, 2011)

The Order establishes requirements for a successful, efficient and cost-effective personnel security program to ensure accurate, timely and equitable determinations of individuals' eligibility for access to classified information and fitness for placement or retention in national security positions. Cancels DOE M 470.4-5, DOE N 470.4 and DOE N 470.5.

DOE O 473.3, Protection Program Operations (Jun 29, 2011)

The Order establishes requirements for the management and operation of the DOE Federal Protective Forces (FPF), Contractor Protective Forces (CPF), and the Physical Security of property and personnel under the cognizance of DOE. Cancels DOE M 470.4-2A, DOE M 470.4-3A, and DOE M 470.4-8. Appendix C Safeguards and Security Alarm Management and Control Systems, of DOE M 470.4-2A, is retained and incorporated into this Order as Attachment 3, Annex 1.

DOE O 474.2 Admin Chg 1, Nuclear Material Control and Accountability (Jun 27, 2011)

This Order establishes performance objectives, metrics, and requirements for developing, implementing, and maintaining a nuclear material control and accountability program within DOE/NNSA and for DOE-owned materials at other facilities that are exempt from licensing by the Nuclear Regulatory Commission. Cancels DOE M 470.4-6. Admin Chg 1, 8-3-11.

DOE O 475.1, Counterintelligence Program (Dec 10, 2004)

The Order establishes Counterintelligence Program requirements and responsibilities for the Department of Energy, including the National Nuclear Security Administration. Cancels: DOE 5670.3 DOE 5670.3 cancels: DOE 5670.3.

DOE O 475.2A, Identifying Classified Information (Feb 01, 2011)

The Order establishes the program to identify information classified under the Atomic Energy Act [Restricted Data (RD), Formerly Restricted Data (FRD), and Transclassified Foreign Nuclear Information (TFNI)] or Executive Order (E.O.) 13526 [National Security Information (NSI)], so that it can be protected against unauthorized dissemination. Cancels DOE O 475.2 and DOE M 475.1-1B.

DOE O 481.1C Admin Chg 1, Work for Others (Non-Department of Energy Funded Work) (Jan 24, 2005)

Work for Others is the performance of work for non-Department of Energy (DOE) entities by DOE/National Nuclear Security Administration (NNSA) and/or their respective contractor personnel or the use of DOE/NNSA facilities that is not directly funded by DOE appropriations. Cancels DOE O 481.1B. Certified 1-13-11. Admin Chg 1, dated 3-14-11.

DOE M 481.1-1A Chg 1, Reimbursable Work For Non-Federal Sponsors Process Manual (Jan 03, 2001)

This Manual provides detailed requirements to supplement DOE O 481.1B, Work For Others (Non-Department of Energy Funded Work), dated 9-28-01, which establishes requirements for the performance of work for non-Department of Energy (DOE)/non-National Nuclear Security Administration (NNSA) entities by DOE/NNSA/contractor personnel and/or the use of DOE/NNSA facilities that is not directly funded by DOE/NNSA appropriations. Change 1 has been added to the Manual 9/28/2001. Cancels DOE M 481.1-1. Certified 12-28-06.

DOE G 481.1-1, Work for Others Guide (Sep 24, 1997)

DOE O 482.1, DOE Facilities Technology Partnering Programs (Jan 12, 2001)

The Order establishes roles and responsibilities for the oversight, management and administration of technology partnerships and associated technology transfer mechanisms, and clarifies related policies and procedures.

DOE O 483.1, DOE Cooperative Research and Development Agreements (Jan 12, 2001)

To establish Department of Energy (DOE) policy, requirements, and responsibilities for the oversight, management, and administration of Cooperative Research and Development Agreement (CRADA) activities at DOE facilities.

DOE M 483.1-1, DOE Cooperative Research and Developments Agreements Manual (Jan 12, 2001)

This Manual provides detailed requirements to supplement DOE O 483.1, DOE Cooperative Research and Development Agreements, dated 1-12-01, which establishes requirements for the performance of technology transfer through the use of Cooperative Research and Development Agreements (CRADAs).

DOE O 484.1 Admin Chg 1, Reimbursable Work for the Department of Homeland Security (Aug 17, 2006)

The Order establishes DOE policies and procedures for the acceptance, performance, and administration of reimbursable work directly funded by the Department of Homeland Security.

DOE M 515.1-1, Advisory Committee Management Program (Oct 22, 2007)

The Manual provides detailed DOE requirements, responsibilities, processes, and procedures for the establishment, operation, and management of advisory committees. Cancels DOE M 510.1-1.

DOE O 520.1A, Chief Financial Officer Responsibilities (Nov 21, 2006)

The Order sets forth requirements for operating the Department of Energy in full compliance with the Chief Financial Officers Act of 1990 and sets standards for sound financial management policies and practices, effective internal controls, accurate and timely financial information, and well-qualified financial managers. Cancels DOE O 520.1.

DOE O 522.1, Pricing of Departmental Materials and Services (Nov 03, 2004)

To set forth requirements for establishing prices and charges for materials and services sold or provided to external organizations, other Federal agencies, and the private sector either directly or through the Department's site/facility management contracts. Cancels DOE O 2110.1A.

DOE O 523.1, Financial Management Oversight (Aug 31, 2006)

The Order defines requirements for effective financial management and adherence to DOE and applicable external financial management requirements and sets forth standards for ensuring the integrity and responsiveness of financial management and the accuracy and reliability of DOEs financial statements. Cancels DOE O 2200.13.

DOE O 533.1, Collection from Current and Former Employees for Indebtedness to the United States (Sep 26, 2003)

To prescribe the policy and procedures for collecting debts owed by current and former Department of Energy (DOE) and National Nuclear Security Administration (NNSA) employees to the United States Government. Cancels DOE 2200.2B.

DOE O 534.1B, Accounting (Jan 06, 2003)

To prescribe the requirements and responsibilities for the accounting and financial management of the Department of Energy (DOE). Cancels DOE O 534.1A.

DOE O 541.1B, Appointment of Contracting Officers and Contracting Officer Representatives (Apr 21, 2004)

The Order established procedures governing the selection, appointment and termination of Department of Energy contracting officers and contracting officer representatives. Cancels DOE O 541.1A.

DOE O 542.2A, Unsolicited Proposals (Feb 27, 2002)

The order sets forth Department of Energy (DOE) requirements and responsibilities for the receipt, processing, and review of unsolicited proposals (USPs). To ensure that those submitting USPs are notified in a timely manner of the status (e.g., pending, accepted for funding, or declined) of their proposals. Cancels DOE O 542.2. Certified 12-28-06.

DOE O 544.1, Priorities and Allocations Program (Oct 12, 2004)

The Order establishes responsibilities for administration of the DOE and NNSA priorities and allocations program for industrial products, materials, and services and requirements for maintaining a system for procurement of industrial products, materials, and services programs that promote the national defense and programs that are determined by DOE to maximize domestic energy supplies. Cancels DOE O 5560.1A.

DOE O 5480.30 Chg 1, Nuclear Reactor Safety Design Criteria (Jan 19, 1993)

Cancels paragraphs 8a and 8b of DOE 5480.6. Cancels DOE O 5480.6 in part. Certified 11-18-10.

DOE O 551.1C, Official Foreign Travel (Jun 24, 2008)

The Order sets forth requirements and responsibilities governing official foreign travel by Federal and contractor employees. Cancels DOE O 551.1B.

DOE O 552.1A Admin Chg 1, Travel Policy and Procedures (Feb 17, 2006)

The Order supplements the Federal Travel Regulation as principal source of policy for Federal employee travel and relocation and establishes DOE M 552.1-1A, U.S. Department of Energy Travel Manual, dated 2-17-06, as the repository for supplementary travel requirements information. Admin Chg 10-1-08. Cancels DOE O 552.1-1A.

DOE M 552.1-1A, U.S. Department of Energy Travel Manual (Feb 17, 2006)

The Manual supplements information in the Federal Travel Regulation (FTR) by providing further clarification and establishing Department of Energy (DOE) policy on matters that the FTR left to Agency discretion. Cancels DOE M 552.1-1.

DOE O 5639.8A, Security of Foreign Intelligence Information and Sensitive Compartmented Information Facilities (Jul 23, 1993)

Cancels DOE 5639.8.

DOE O 5670.1A, Management and Control of Foreign Intelligence (Jan 15, 1992)

Cancels DOE 5670.1.

DOE O 580.1 Chg 1, Department of Energy Personal Property Management Program (Dec 07, 2005)

This Order provides responsibilities and requirements for personal property management at the Department. Change 1, dated 5-8-08, includes responsibilities for heads of Departmental elements to be accountable for personal property inventories. Cancels DOE O 580.1.

DOE G 580.1-1, Department of Energy Personal Property Management Guide (Dec 07, 2005)

This Guide provides nonregulatory guidance and information to assist DOE organizations and contractors in implementing the DOE-wide and site-specific personal property management programs.

DOE O 360.1C, Federal Employee Training (Jul 06, 2011)

This Order establishes requirements and responsibilities for DOE Federal employee training in accordance with Chapter 41 of Title 5, United States Code (U.S.C.). Cancels DOE O 360.1B and DOE M 360.1-1B.

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

NOVEMBER 2, 2011

RESPONSES TO QUESTIONS SUBMITTED BY MR. LANGEVIN

Dr. MILLER. The next inspection in Russia after November 2, 2011, was on November 16, 2011. The next inspection in the U.S. after November 2, 2011, was on November 7, 2011. [See page 28.]

General KEHLER. New START identifies ceilings for deployed and non-deployed strategic delivery vehicles, launchers and accountable warheads. The language proposed in H.R. 1540, Section 1055, defines New START ceilings as the floor for delivery systems and warheads and restricts non-deployed warhead reductions. As the combatant commander responsible for the nuclear deterrence mission, my responsibility is to advise the Secretary of Defense and the President whether the force, as currently constituted, is mission capable. Section 1055 sets provisions that limit flexibility to implement treaty provisions, as well as limit our ability to efficiently and cost-effectively manage our strategic force structure and stockpile. These provisions could result in the diversion of strategic deterrence sustainment resources from critical programs needed to maintain mission capabilities and support the long-term safety, security and reliability of our nuclear deterrent. [See page 30.]

General KEHLER. As the combatant commander responsible for managing forces and implementing the New START, I am concerned reporting requirements and waiting periods have the potential to impact New START implementation timeline. Additionally, the second provision restricts the DOD/DOE annual weapons requirements process by tying the adjustment of non-deployed quantities to infrastructure improvements that, given the current fiscal environment, may not materialize. This provision has the potential to divert resources from critical stockpile sustainment efforts and delay prudent reductions to the non-deployed stockpile. In my view, existing consultative processes (e.g., 1251, SSMP) ensure we work jointly with Congress to implement New START and manage the stockpile. [See page 42.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

NOVEMBER 2, 2011

QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. At the House Armed Services Committee's October 13 hearing, Secretary of Defense Panetta said, "With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path." To ensure we are not reducing unilaterally, will we retain nuclear forces that are at—or very near—the limits on strategic forces imposed by the New START Treaty? Otherwise, wouldn't it by definition be "unilateral" reductions?

a. Would you support reductions if they were a part of a non-binding agreement with Russia?

b. At what force levels do we need to start bringing the "others" Secretary Panetta mentions, particularly China, into the picture?

Dr. MILLER. The Administration has not made a final decision on the specific mix of forces to be deployed under the New START Treaty. DOD continues to plan on 240 SLBM launchers, up to 420 ICBM launchers, and up to 60 nuclear-capable heavy bombers. It is important to note that the U.S. retains the flexibility to modify the mix of delivery systems under the Treaty.

a. As stated in the Nuclear Posture Review (NPR), because of our improved relations, the need for strict numerical parity between the United States and Russia is no longer as compelling as it was during the Cold War. But large disparities in nuclear capabilities could raise concerns on both sides and among U.S. Allies and partners, and may not be conducive to maintaining a stable, long-term, strategic relationship, especially as nuclear forces are significantly reduced. Therefore, we will place importance on Russia joining us as we move to lower levels.

b. Maintaining strategic stability with both Russia and China will remain a critical challenge in the years ahead. China is estimated to have only a few hundred nuclear weapons and to be modernizing its nuclear arsenal; a Chinese "sprint to parity" has not materialized. That said, the overall lack of transparency surrounding China's nuclear programs and capabilities raises questions about China's future strategic intentions. We continue to pursue high-level, bilateral dialogues with both Russia and China that seek to promote more stable, resilient, and transparent strategic relationships. It is impossible at this time to pinpoint an exact force level at which the United States and Russia would want to bring other nations into a binding agreement. However, given that the United States and Russia will still account for 90 percent of the world's nuclear weapons after New START is implemented, there is a clear opportunity for future bilateral reductions—including of tactical nuclear weapons, which the Russians have in much larger numbers.

Mr. TURNER. Dr. Miller, you noted that the NPR stated that "strict numerical parity between the United States and Russia is no longer as compelling as it was during the Cold War," but that "we will place importance on Russia joining us as we move to lower levels." In my mind, "placing importance on" is not the same as "we won't do this." Will the administration make reductions without reciprocal and proportionate reductions from Russia?

Dr. MILLER. The Administration is conducting a Nuclear Posture Review (NPR) implementation study to determine the nuclear force size and structure needed to support U.S. national security requirements and meet international obligations in a dynamic security environment. The ongoing study was directed by the President as part of the 2010 NPR. The analysis from this study will provide options for the President's guidance to the Departments of Defense and Energy on nuclear planning with respect to the force structure, force posture, and stockpile requirements needed to protect the United States and its Allies and partners, and to inform plans for the employment of nuclear weapons in the event that deterrence fails. As stated in the NPR, the United States intends to pursue further reductions in nuclear weapons with Russia. When complete, the analysis of deterrence requirements and force postures will inform the development of any future arms control objectives.

Mr. TURNER. How many military and civilian personnel in the executive branch have full or partial access to nuclear employment and targeting guidance issued by the President, the Secretary of Defense, the Chairman of the Joint Chiefs of Staff,

and the Commander of U.S. Strategic Command? Please break down this information by the numbers of personnel with access to each level of guidance. How many personnel in the legislative branch have full or partial access to each level of guidance?

Dr. MILLER. A very small group of personnel in the executive branch have access to the nuclear employment guidance issued by the President, the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Commander, U.S. Strategic Command. Even within the Department of Defense (DOD), access to this sensitive material is tightly controlled. Within the Department of Defense, fewer than twenty copies of the President's guidance are distributed in the Office of the Secretary of Defense, the Joint Staff, and U.S. Strategic Command. Fewer than 200 copies of the most recent amplifying guidance issued by the Secretary of Defense were produced, and distribution was limited primarily to Office of the Secretary of Defense, the Joint Staff, U.S. Strategic Command, and other Combatant Commanders. The Chairman's guidance is distributed more widely within DOD (fewer than 200 copies), as the document assigns responsibilities to several defense agencies and the intelligence community. Commander, U.S. Strategic Command must issue guidance to his planners and forces in the field, so distribution is somewhat wider because of that need.

There is a long history of debate about providing the legislative branch access to this material. As a result, instances of providing access to a member of Congress and senior staff personnel have been quite limited and under restrictive terms.

This Administration is committed to working with Congress and supporting effective congressional oversight on nuclear policy and modernization issues. To this end, the Secretary of Defense has invited the Chairmen and Ranking Members of the House and Senate Armed Services Committees and the Strategic Forces Subcommittees, and the relevant staff directors, to participate in a set of classified briefings that the Office of the Secretary of Defense would provide, in conjunction with the Joint Staff and U.S. Strategic Command. The provision of such information would be subject to strict safeguards given its extremely sensitive nature.

Mr. TURNER. The House Appropriations Committee reported a Defense Appropriations bill that contains a 1% reduction from the President's budget request for DOD. The House Appropriations Committee reported an Energy and Water appropriations bill that contains a 10% reduction for NNSA and all of its defense activities. This came after strong and vocal support from Secretary Gates and senior military leaders for NNSA's full budget request. How do these discrepancies affect planning, budgeting, and coordination between NNSA and DOD on the overall nuclear security enterprise? Should all aspects of the nuclear security enterprise be consolidated into a single budgetary and appropriations authority?

Dr. MILLER. The modernization program was closely coordinated between the Department of Energy and the Department of Defense to ensure that modernization efforts are funded, but also to manage costs wisely. If Congress makes reductions without context and without thoroughly examining the long-term effects on the national interest, such actions could undermine our plans to ensure a safe, secure, and effective nuclear deterrent.

It is essential to look across the complete nuclear security enterprise to review budgetary impacts fully, particularly in light of our current fiscal situation and the new constraints imposed by the Budget Control Act of 2011; however, this does not necessarily require a single budgetary and appropriations authority. As you know, the Nuclear Weapons Council (NWC), established in Title 10, Section 179, of the U. S. Code, has responsibility for coordinating programming and budget matters pertaining to nuclear weapons programs between the Department of Defense and the Department of Energy. The NWC has been active in this role, and the Departments of Defense and Energy will continue to consider any steps that could further improve effective planning and oversight.

Fulfilling the President's commitment to modernize the nuclear enterprise will require full and sustained congressional support. As we review our defense budget for the most cost-effective means to secure our Nation, I look forward to working with Congress to ensure funding for the critical activities within the Department of Defense and Department of Energy that are necessary to sustain the most effective nuclear deterrent.

Mr. TURNER. You said the 1251 Report shows that the total cost of sustaining, operating, and modernizing our nuclear forces, nuclear weapons, and their supporting infrastructure over the next ten years—for both DOD and NNSA—is on the order of $214 billion. What percentage of the defense budget is this? What percentage of the full federal budget is this? How does this compare to historical trends, including the Cold War? Please be as specific as possible.

Dr. MILLER. The $214 billion is about 3 percent of the 10-year defense base budget of $6.3 trillion (including the Department of Defense (DOD) and the National Nuclear Security Administration) and is about 2 percent of the Federal budget of $12.2 trillion (excluding Overseas Contingency Operations).

The following are some historical trends based on the DOD budget:

- Funding for Strategic Forces ($0.6 trillion) as a percent of the DOD budget ($12.7 trillion) from FY 1962 to FY 2011 was about 4 percent.
- Funding for Strategic Forces ($0.4 trillion) as a percent of the DOD budget ($4.4 trillion) during the Cold War (based upon data from FY 1962 to FY 1991) was about 8 percent.
- Funding for Strategic Forces ($.2 trillion) as a percent of the DOD budget ($8.3 trillion) after the Cold War (from FY 1992 to FY 2011) was about 2 percent.

Note: The source for the historical data was from Table 6.4, Department of Defense TOA by Program, in DOD's "National Defense Budget Estimates for FY 2012" book (commonly referred to as the "Green Book." This historical data includes all supplementals and Overseas Contingency Operations/Global War on Terrorism funding.

Mr. TURNER. We have heard that within the Deterrence and Defense Posture Review (DDPR) process, some NATO allies might be encouraging several changes to NATO's nuclear posture, possibly including: (1) consolidation of U.S. nuclear forces in Europe to one or more centralized bases, (2) decreasing the number of dual-capable aircraft our allies are required to maintain, (3) relaxing or eliminating requirements for pilots from allied nations to be trained and exercise in the nuclear mission, and (4) potential removal of U.S. nuclear weapons from Europe.

a. Are any of these actions being considered by the DDPR? Which ones?

b. Would NATO and the U.S. consider taking any of these steps unilaterally, without reciprocal and proportionate action on the part of Russia?

i. What actions would we consider taking unilaterally, and what actions would we only undertake bilaterally with Russia?

ii. What reciprocal actions would the U.S. look for from Russia in exchange for any of these four actions?

Dr. MILLER. The DDPR process is still in the deliberative stages. However, in keeping with the Strategic Concept, any future reductions will be made on the basis of reciprocity with Russia, not unilaterally. We have not determined what reciprocal actions from Russia would be sufficient for future changes.

Mr. TURNER. Some subset of F–35 joint strike fighters are intended to be nuclear-capable, replacing the nuclear-capable F–16s that will be retired due to age. Can you affirm that there will be nuclear-capable F–35s? This decision has been made and is being implemented?

a. How many F–35s will be nuclear-capable?

b. Based on the current F–35 program plan, when will the first nuclear-capable F–35s be deployed?

c. When will the first nuclear-capable F–35s be deployed to Europe?

Dr. MILLER. Yes, the 2010 Nuclear Posture Review confirmed the need to retain a dual-capable fighter to ensure that the United States retains the ability to forward deploy non-strategic nuclear weapons in support of Alliance commitments. The Air Force plans to replace current DCA-capable aircraft with the F–35 Joint Strike Fighter and intends to program, develop, and integrate nuclear capability as part the Joint Strike Fighter's Block 4 upgrade planned to be released to the field in the early 2020s.

a. The Air Force plans to purchase 1,763 F–35As. The Air Force remains committed to deliver the DCA capability with the Block 4 upgraded F–35As in the early 2020s.

b. The Air Force will be prepared to deploy nuclear-capable F–35As after the Block 4 upgrade in the early 2020s.

c. The first nuclear-capable U.S. Air Force F–35As will be available for Europe in the early 2020s.

Mr. TURNER. How does the deployment of the B61–12 warhead align with deployment of nuclear-capable F–35s? Is deployment of the two systems linked? Can one deploy without the other, while still retaining our nuclear capability in Europe?

Dr. MILLER. The B61–12 will sustain the U.S. extended deterrence commitment to our Allies through life extension of the aging B61 family of bombs. As part of this life-extension effort, compatibility with the F–35 will be preserved; however, the B61 and F–35 programs are not dependent on one another. Until the F–35 becomes nuclear-capable, non-strategic deployment of the B61–12 will, if required, occur though the use of existing Dual-Capable Aircraft.

Mr. TURNER. Are our NATO allies still planning to purchase dual-capable F–35s to replace their aging dual-capable aircraft? How many do they plan to purchase

and when? Please describe the plans for NATO countries to replace or modernize their nuclear-capable aircraft, including numbers of aircraft and timelines for purchase. How are these plans being reflected in the DDPR?

Dr. MILLER. Although the specific dates and quantities are classified, some Allies are still planning to purchase F–35 aircraft. The DDPR process is still in the deliberative stage.

Mr. TURNER. When NNSA conducts a life extension program on a particular weapon type, will NNSA extend the life of all warheads of that type, including those in the non-deployed "hedge" part of the stockpile? Or will it only extend those weapons in the active, deployed part of the stockpile?

Dr. MILLER. Each nuclear weapon life extension is unique to its type and the hedge required to support operational requirements. Total quantities for each life extension are determined by accounting for operational needs, reliability and surveillance testing, spares, and hedge needs. Hedge quantities are affected by geopolitical and technical requirements to support each leg of the triad. The Administration is reviewing hedging requirements and their implication for stockpile size and status as part of the Nuclear Posture Review implementation study.

Mr. TURNER. Would you please elaborate on your statement that "To date no decisions have been made with respect to future force sizing or the modernization plans for nuclear delivery systems; such decisions will be informed by the Administration's ongoing review of deterrence requirements"? Do the commitments made for modernization in the 1251 Report still hold? Does the President's commitment to the Senate during New START consideration still hold? In a message to the Senate on New START, the President said: "I intend to (a) modernize or replace the triad of strategic nuclear delivery systems: a heavy bomber and air-launched cruise missile, an ICBM, and a nuclear-powered ballistic missile submarine (SSBN) and SLBM."

Dr. MILLER. To date, no final decisions have been made with respect to the specific future force sizing or the modernization plans for nuclear delivery systems—i.e., the exact mix of delivery systems and warheads under the New START Treaty. Such decisions will be informed by the Administration's ongoing review of deterrence requirements. I can assure you, however, that these decisions will be consistent with the goals of the NPR, including to maintain strategic stability, provide assurance to our Allies and partners regarding the credibility of the U.S. nuclear umbrella and other security commitments, and to maintain a safe, secure, and effective nuclear deterrent.

The Administration is committed to making the investments necessary to recapitalize the nuclear enterprise and ensure we have the highly skilled personnel needed to maintain our nuclear capabilities. These are large investments that must be made over an extended period, but are essential to U.S. national security.

Mr. TURNER. The 2010 Nuclear Posture Review (NPR) says that "the presence of U.S. nuclear weapons—combined with NATO's unique nuclear sharing arrangements under which non-nuclear members participate in nuclear planning and possess specially configured aircraft capable of delivering nuclear weapons—contribute to Alliance cohesion and provide reassurance to allies and partners who feel exposed to regional threats."

a. Please explain how the presence of nuclear weapons in Europe contributes to NATO cohesion, reassurance, and stability.

b. In particular, which NATO allies value these nuclear weapons and "feel exposed to regional threats"?

c. Will unanimity among NATO members be required before any major changes are made to our nuclear posture in Europe? What sorts of changes to our nuclear posture in Europe might we undertake without unanimity of NATO members?

Dr. MILLER. The Strategic Concept reinforced that the Alliance will maintain an "appropriate mix" of nuclear and conventional forces, and that the Alliance would "remain a nuclear Alliance as long as nuclear weapons exist." As such, nuclear weapons contribute to overall cohesion and stability of the Alliance. The Strategic Concept also lays out the threats to which all members are exposed, including conventional threats, proliferation threats, terrorism, and cyber attacks. No major changes to nuclear posture would be expected without consensus from Alliance members.

Mr. TURNER. Dr. Miller, you recently told a reporter that DOD might be willing to contribute more funding to NNSA's nuclear modernization efforts, but would not be willing to transfer any more budget authority if the Energy and Water appropriators do not use it for the intended modernization purpose. Were you referring to some of the $8.3 billion in budget authority DOD has already pledged for NNSA, or were you referring to additional funds beyond this $8.3 billion?

Dr. MILLER. The approximately $8.3B pledged for NNSA consisted of two separate transfers—the first was $5.7B during Fiscal Year (FY)11–FY15 and the second was

$2.5B during the FY12–16 period. This second transfer was intended to be distributed annually. It is the annual distribution of this second transfer that I believe should be reconsidered if funding is not appropriated as it was intended.

Mr. TURNER. Dr. Miller, you recently said that you haven't seen anything to suggest that $7.6 billion for NNSA Weapons Activities is not the correct figure for FY12. Would you please elaborate?

Dr. MILLER. The Fiscal Year (FY)12 Presidential Budget Request for NNSA Weapon Activities was $7,629,716,000, which is the amount required to meet DOD nuclear weapons requirements. This figure was arrived at after careful consideration of the need to implement the policies of the Nuclear Posture Review and the requirements of the New START Treaty. This funding request is in alignment with the ten-year funding profile in the report pursuant to Section 1251 of the National Defense Authorization Act for Fiscal Year 2010; this profile was provided to Congress in February 2011. It also includes a transfer of funds from the DOD to the NNSA to ensure weapon life extension programs and nuclear facility modernization efforts are funded appropriately.

Mr. TURNER. The 2010 NPR states that nuclear force reductions are possible because of overwhelming conventional military superiority. Since the NPR was written, $330 billion in weapons systems have been cancelled and $489 billion has been taken out of the defense budget. And now we have the specter of sequester looming ahead with the promise of an additional half trillion in cuts. Is this premise in the 2010 NPR still valid? At what point is it not? Where is the break-point in terms of our conventional military superiority as we see both China's large buildup in conventional military capability and asymmetric capabilities and China and Russia's major nuclear modernization programs?

Dr. MILLER. Under the funding levels required by the Budget Control Act, the United States will continue to possess overwhelming conventional capability against any conceivable adversary for the foreseeable future. If sequestration occurs, the scale and arbitrary nature of the required cuts to defense spending would inflict severe damage on the U.S. military. In this case, the United States would need to reconsider all elements of its defense strategy.

Mr. TURNER. After implementation of the New START Treaty and the NPR, what percentage of our strategic forces will be deployed on submarines?

a. Has the U.S. ever deployed so much of its deterrent on a single platform before? In other words, on one leg of the triad and on one type of submarine, ICBM, or bomber? What risks does the U.S. accept by doing so?

Dr. MILLER. Final decisions on specific force mix under New START have not yet been made, but more than half of our operational strategic warheads will be deployed on submarines.

The United States since the end of the Cold War, has deployed a large portion of our forces on SSBNs. The percentage of warheads deployed aboard SSBNs today is very similar to what we would expect after full implementation of the New START Treaty.

There are both operational and technical risks associated with strategic submarines. The operational risk is that these submarines could become vulnerable—a scenario that appears highly unlikely for the indefinite future. The technical risk is that a problem with the type of warheads carried on the submarines, or with our submarine-launched ballistic missiles, or the submarines themselves, could result in that portion of the force becoming unavailable. A massive technical failure is also highly unlikely. However, because of the importance of the nuclear deterrence mission we mitigate these risks by maintaining the capability to upload other legs of the Triad in response. To be well-hedged against a technical surprise remains a key priority, and is one of the metrics we use when evaluating force structures.

Mr. TURNER. The NPR concluded that "the current alert posture of U.S. strategic forces ... should be maintained for the present." Please explain why the NPR reached this decision. What are the benefits of our current alert posture? Do you anticipate changes in this decision?

Dr. MILLER. The Nuclear Posture Review (NPR) considered the possibility of reducing alert response requirements for ICBMs and at-sea response requirements of SSBNs, and concluded that such steps could reduce crisis stability by giving an adversary the incentive to attack before "re-alerting" was complete. At the same time, the NPR concluded that returning heavy bombers to full-time nuclear alert was not necessary, assuming the other two Triad legs retain an adequate alert posture.

The current alert posture supports strategic stability through an assured second-strike capability. It ensures that, in the calculations of any potential opponent, the perceived gains of attacking the United States or its Allies and partners would be far outweighed by the unacceptable costs of the response.

At this time, I do not anticipate any major changes in the alert posture for U.S. strategic forces.

Mr. TURNER. Germany and Norway have put forward ideas in the DDPR process to increase transparency in NATO's nuclear mission and NATO's nuclear forces. What transparency measures are being considered?

a. What NATO transparency measures are the U.S. comfortable with NATO doing unilaterally (i.e., without reciprocal and proportionate action by Russia)?

b. What NATO transparency measures would we only consider doing bilaterally based on agreements with Russia? Would you anticipate such bilateral agreements being based on non-binding agreements or through some sort of binding treaty or agreement?

c. How does the administration define "transparency"? How does it define "verification"? How are the two concepts related?

Dr. MILLER. The Deterrence and Defense Posture Review (DDPR) process is still in the deliberative stages. We have not determined what constitutes "transparency measures" and which ones will be considered.

Transparency and verification are closely related concepts. The New START Treaty, for instance, provides significant transparency regarding the strategic nuclear relationship between the United States and Russia through its extensive verification regime. The Treaty's verification measures include extensive notifications, prohibitions on interference with National Technical Means (NTM), unique identifiers, inspections, and exhibitions. These measures allow each side to gain important insights into the other side's strategic forces. They also reduce uncertainty about the future direction of Russian strategic forces and assist in improved planning for our future defense needs. On the whole, this shared knowledge is valuable for maintaining strategic stability between the two major nuclear powers.

Mr. TURNER. How does the B61 Life Extension Program (LEP), which would consolidate several different versions of the B61 into a single B61–12 version, link to our extended deterrent in Europe?

a. What are the implications, both to our extended deterrent and more broadly, of delay in the B61 LEP?

b. Why is it important to increase surety in B61 warheads during the LEP?

Dr. MILLER. The intent of the B61 LEP is to consolidate four current versions of the B61 family of bombs into one single version that will continue to sustain both our strategic and extended deterrence missions. NNSA, in coordination with the Department of Defense (DOD), identified the Initial Operating Capability (IOC) and Full Operating Capability (FOC) to ensure that a seamless transition between the B61–12 and the earlier versions that it is replacing is achieved without any loss in operational capability. The NNSA and DOD will continue to address any delay in meeting these dates that could potentially jeopardize those missions and the extended deterrence commitment to our Allies and friends.

As part of any life extension program, NNSA considers options for enhancing the safety, security, and use control features of a weapon system as part of the Phases 6.1/2/2A process. Policy directives require an assessment of the warhead to meet safety and security objectives for the future. This process ensures that viable weapon surety features are identified and evaluated against all other design requirements and balanced against cost and schedule risks to assure our commitment to a safe, secure, and effective nuclear deterrent.

Mr. TURNER. When will a decision be made regarding how specifically our nuclear forces will be structured to comply with the New START Treaty? When will de-MIRVing of our ICBM forces begin to occur?

Dr. MILLER. To date, no final decisions have been made with respect to force structure under the new START Treaty; such decisions will be informed by the Obama Administration's ongoing review of deterrence requirements. I can assure you that these decisions will be consistent with the goals of the Nuclear Posture Review (NPR), including to maintain strategic stability, provide assurance to our Allies and partners regarding the credibility of the U.S. nuclear umbrella and other security commitments, and to maintain a safe, secure, and effective nuclear deterrent.

Partial "de-MIRVing" (MIRV, Multiple Independent Reentry Vehicle) of our ICBM forces began in the 1990s as part of our reductions under the START Treaty. The Air Force has also begun the complete de-MIRVing of the rest of the ICBM force, as directed in the NPR, in conjunction with previous commitments and Air Force-established maintenance plans. This minimizes disruption to our operational forces and is the most cost-effective method for carrying out the NPR guidance to de-MIRV the ICBM force.

Mr. TURNER. Dr. Miller, in your remarks, you said "The U.S. nuclear arsenal included 5,113 weapons as of September 30, 2009, at the time of our last unclassified release of stockpile totals." How many of those weapons were in the various cat-

egories of active, inactive, deployed, non-deployed, etc.? Is there any intention to make such detailed numbers public?

Dr. MILLER. The specific numbers associated with the deployed/non-deployed, active/inactive stockpile remain classified and, as such, are not to be made public. However, the United States declared an aggregate 1,790 warheads on deployed ICBMs, deployed SLBMs, and counted for deployed heavy bombers to the Russian Federation as part of the New START Treaty on September 1, 2011. There is no current plan to make public the specific numbers of deployed/non-deployed, active/inactive stockpile weapons.

Mr. TURNER. How many nuclear warheads does Russia make each year? What is our estimate for how many it can make? How does this compare to actual U.S. production and our potential production capacity?

Dr. MILLER. [The information referred to is classified and retained in the committee files.]

Mr. TURNER. Dr. Miller, when you said "unclassified estimates suggest that Russia has 4,000 to 6,500 total nuclear weapons, of which 2,000 to 4,000 are non-strategic tactical nuclear weapons," are those numbers active warheads or all Russia warheads (including those in storage or non-deployed status)?

Dr. MILLER. [The information referred to is classified and retained in the committee files.]

Mr. TURNER. Are you concerned about reports about China potentially increasing the MIRVing of its land- and sea-based ballistic missiles? How might this trend affect the nuclear balance and our nuclear policies 10 or 20 years from now? Are you concerned about reports of Russia developing and deploying new heavy, highly-MIRV'd, silo-based ICBMs? How would deployment of this system affect strategic stability and U.S. nuclear policies and strategies? Did the U.S. seek to ban such systems during New START negotiations?

Dr. MILLER. We are concerned about the pace and scope of the modernization of China's nuclear capabilities, both quantitatively and qualitatively. We are also concerned about the lack of transparency regarding the strategy and doctrine guiding this effort. Moreover, the overall lack of transparency surrounding China's nuclear programs and capabilities raises questions about China's future strategic intentions and makes it difficult to assess the future nuclear balance.

A Russian deployment of a new heavy, highly MIRVed, silo-based ICBM would reduce our strategic stability. The United States is taking steps to enhance strategic stability, including de-MIRVing ICBMs and sustaining a robust at sea presence of strategic submarines. These U.S. steps reduce first-strike incentives for both sides, thereby enhancing stability.

These questions and potential concerns illustrate why we continue to pursue high-level, bilateral dialogues with China and Russia that seek to promote a more stable, resilient, and transparent strategic relationships.

Mr. TURNER. The NPR mentions "strategic stability" more than a dozen times, but never defined it. How does the administration define "strategic stability"? How does it relate to force structure, numbers, and modernization? How do nuclear modernization programs in Russia and China affect strategic stability? How is strategic stability affected in the long-term if other countries continue their nuclear modernization efforts but our own modernization effort stalls or is greatly reduced in scope?

Dr. MILLER. Strategic stability exists when no side has incentives or believes the other side has incentives to attempt to conduct a disarming first-strike, whether in a day-to-day situation ("bolt-from-the-blue" scenario) or in a severe crisis ("preemption in crisis" scenario). Survivable nuclear forces and command and control are critical to strategic stability, and other factors including the de-MIRVing of silo-based ICBMs contribute to stability. Modernization that sustains or improves the survivability of nuclear forces and command and control can be stabilizing. Increased transparency and discussions on strategic doctrine, which the United States would like to expand with Russia and initiate with China, can also improve stability by reducing the prospects for miscommunication or misperception.

Mr. TURNER. General Kehler, you cautioned against cutting the budget or size of our nuclear forces too deeply, resulting in what you called a "hollow force." For each of the three legs of the triad, what are the breakpoints or red-lines in the size of the force or budget that would result in a "hollow force" for that leg?

a. What analysis has been done to examine these questions?

b. Would cutting one wing of ICBMs—leaving us with two wings—potentially result in a hollow force in that leg of the triad?

General KEHLER. A hollow force is a force giving the appearance of readiness when, in fact, the capability is not there. The force may be hollow if it is too small for the job, is inadequately supported, or lacks an adequate industrial base. There-

fore, any discussion and assessment on "hollow force" or breakpoints must be preceded by a thorough analysis of the strategy, its objectives, force composition, and the level of budgetary support.

A. Resources and force structure identified in the President's Budget and the updated 1251 Report are adequate to support today's strategic deterrent strategy and policy goals as we move forward to implement New START.

B. Eliminating a wing of ICBMs would not necessarily create a hollow force, provided the remaining wings can meet national strategic deterrent requirements, and are properly trained, equipped, maintained, sustained, and led.

Mr. TURNER. At the House Armed Services Committee's October 13 hearing, Secretary of Defense Panetta said, "With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path." To ensure we are not reducing unilaterally, will we retain nuclear forces that are at—or very near—the limits on strategic forces imposed by the New START Treaty? Otherwise, wouldn't it by definition be "unilateral" reductions?

a. Would you support reductions if they were a part of a non-binding agreement with Russia?

b. At what force levels do we need to start bringing the "others" Secretary Panetta mentions, particularly China, into the picture?

General KEHLER. As specified in the 1251 report, we are presently looking at New START implementation plans that are "at or very near the limits imposed by the New START Treaty." Any recommendations to depart from that approach would have to be based on the international situation and our deterrence, assurance and stability needs.

Regarding bringing states other than Russia into negotiated nuclear arms reductions, the New START negotiating position took into account our total force requirement involving all potential threats. As discussed in the Nuclear Posture Review, we should bring others into the "picture" now. But the "picture" is not necessarily limited to negotiated arms reductions. Rather, the nature and objectives of our interactions with others should be tailored to the countries involved.

Mr. TURNER. Would you support unilateral reductions in our nuclear forces, below the levels prescribed by New START? Would you support reductions if they are part of a non-binding agreement with Russia?

General KEHLER. I support the 13 October statement of Secretary of Defense Panetta: "With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path." We are currently looking at New START force structures that are at or very near the limits contained in New START.

Mr. TURNER. General Kehler, your predecessor at U.S. Strategic Command, General Kevin Chilton, said in June 2010 that, with regards to the size of our nuclear arsenal, "I do not agree that it is more than is needed. I think the arsenal that we have is exactly what is needed today to provide the deterrent. And I say this in light of—when we talk about the non-deployed portion of the arsenal, it is sized to be able to allow us to hedge against both technical failures in the current deployed arsenal and any geopolitical concerns." Do you agree?

General KEHLER. The nuclear arsenal is sized to meet current policy and strategy objectives and manage technical and geopolitical risks. The non-deployed stockpile provides considerable flexibility to respond to operational issues, technical failures or breakthroughs, and geopolitical uncertainty. We annually review stockpile requirements to seek the most cost efficient force mix to provide deterrence capabilities and manage risk.

Mr. TURNER. How many military personnel have full or partial access to STRATCOM's OPLAN 8010? How many must have knowledge of its contents to fulfill their jobs and missions?

General KEHLER. Full access to all portions of OPLAN 8010 is limited to our most senior leadership. OPLAN 8010 is built on a full spectrum of missions (nuclear, conventional, and non-kinetic) that involve all levels of USSTRATCOM and its components. Because the majority of the base plan and supporting annexes are classified SECRET, military members with at least a SECRET clearance and need-to-know can be granted access. However, those portions of the plan do not include the details of our nuclear employment planning. Some portions of the plan contain data which are classified at a higher level, including those portions that include the details of our nuclear employment planning, and access to those portions is limited accordingly.

Mr. TURNER. When does our current force of Minuteman III ICBMs start aging out? What life extension programs are currently underway for the ICBMs?

a. What assessments or surveillance are we doing related to aging in the ICBM force?

b. What are our plans or programs to extend the life of our Minuteman III ICBMs? When must the decision be made to proceed with life extension?

c. What are our plans or programs to replace the Minuteman III ICBM force? When must the decision be made on a replacement program?

General KEHLER. We are confident Minuteman is sustainable through mid-2020s and are engaged with the Air Force to identify any additional steps required to sustain Minuteman through 2030. The Air Force is refurbishing the propulsion system rocket engines and warhead fuzes, making improvements to depot and field support equipment, and security and C2 sub-systems.

A. The Air Force conducts a comprehensive aging and surveillance program and reports the results to USSTRATCOM. The surveillance and testing program includes ground and flight testing. Results are used to assess performance of the weapon system and provide insights on the need for refurbishment and replacement programs.

B. The current Air Force plan is to extend Minuteman through component replacement. This program is ongoing and reflected in the PB12 budget. Major subsystems being refurbished include the propulsion system rocket engine and warhead fuzes. Guidance and propulsion sub-systems require attention in the very near future to ensure performance through 2030. Additionally, the Air Force is making investments in advanced technology to support these future efforts.

C. Analysis is underway to support the Minuteman recapitalization. The Air Force plans to conduct a Ground Based Strategic Deterrent (GBSD) Analysis of Alternatives (AoA) to examine the full range of alternatives including mobile options, as directed by the NPR. The decision on investment for a Minuteman replacement depends on AoA findings. Early investments may be required in the FY14 budget. The goal is to ensure current and future investments on sub-systems are leveraged in the recapitalization solution.

Mr. TURNER. How do we support the industrial base for ICBMs and submarine launched ballistic missiles? Please compare and contrast our approach to maintaining the industrial base for these two programs.

a. The committee has been informed that there is a low-rate production program in place for the D5 SLBM program. Is a similar program in place for Minuteman III?

b. Do you have any concerns related to the rocket motor industrial base, now that NASA has canceled so many of its human spaceflight programs? Is DOD shouldering too much of the burden in this area now?

General KEHLER. Various DOD solid rocket motor investments support the industrial base. DOD Director of Defense Research and Engineering (DDR&E) conducts science and technology (S&T) activities in propulsion in the Technology for Sustainment of Strategic Systems Program. The Air Force conducts propulsion Research Development Testing and Evaluation (RDT&E) activities in the Demonstration and Validation Program. The Navy D5 Life-Extension Program executes ongoing production of the D5 missile.

A. The Air Force conducts ongoing RDT&E efforts which could support a future low-rate production activity, if funded by the Air Force.

B. In order to support strategic systems, the DOD will bear an increased proportion of the industry's overhead costs. These increases will be reflected in ongoing production and future development programs. In addition, the U.S. needs to ensure the complete design-to-production industrial capability and suppliers are sustained. Loss of these capabilities would require numerous years and significant cost to reconstitute.

Mr. TURNER. General Kehler, your predecessor as commander of Strategic Command, General Kevin Shelton, said the following in June 2010: "The reason we have to maintain this large inventory is because we no longer have the ability to produce nuclear weapons in this country. The infrastructure has been allowed to decay and get to a point where we cannot do that. The Russians, on the other hand, have an ability to produce nuclear weapons. That is how they hedge. And so, this is why it's—I think, the NPR findings and the investments in the nuclear infrastructure and the personnel and expertise that is required to sustain the stockpile are so important so that by the time we get to next decade, we'll be in a position to look at our non-deployed arsenal and consider future reductions to that. But today, I think we have what we need to support the deterrent." Earlier this year, Administrator D'Agostino testified before this subcommittee that NNSA's new plutonium and uranium facilities—the Chemistry and Metallurgy Research Replacement (CMRR) facil-

ity in New Mexico and the Uranium Processing Facility (UPF) in Tennessee—need to be "up and running" before we make substantial cuts to the non-deployed stockpile. General Kehler, do you agree with these statements by General Chilton and Administrator D'Agostino?

a. Should "up and running" mean the facilities are being built, or should they have demonstrated actual production capability? What metrics should we be using to judge that the infrastructure is robust enough to support reductions in the non-deployed stockpile without undue risk?

b. General Kehler, would you please provide the military's perspective on the link between nuclear modernization and the ability to reduce non-deployed weapons?

c. Do DOD and NNSA have a clear plan on what reductions in the non-deployed stockpile are possible or planned for the future, and how those reductions align with infrastructure and stockpile modernization milestones?

d. Has STRATCOM provided NNSA input regarding how many non-deployed weapons the military requires kept in the stockpile as a "hedge"? Please provide this information to the committee.

e. If nuclear modernization is delayed or postponed, can we reduce the size of the non-deployed stockpile? How many non-deployed nuclear weapons would STRATCOM want to see retained as a risk mitigation measure or "hedge"? If one or both of UPF and CMRR are delayed in getting "up and running," what levels and types of non-deployed warheads would you recommend keeping in the stockpile as a risk mitigation measure or "hedge"? Please be specific.

General KEHLER. NNSA's uranium and plutonium facilities are vitally important, but are not the only considerations associated with reductions in non-deployed weapons. There is a broader set of considerations including the stockpile's condition, progress on life extension programs, and demonstrated infrastructure capabilities (existing or modernized). The current non-deployed stockpile's purpose is to manage risk and we continuously assess and look for cost-efficient opportunities to mitigate risk.

A. For the infrastructure to have a significant role in risk mitigation there needs to be demonstrated production capabilities. Again, there is a broader set of considerations beyond capacity that influence non-deployed stockpile composition. For example, NNSA needs to demonstrate the ability to conduct surveillance, perform maintenance and execute weapon life extension programs on schedule.

B. As the U.S. currently has a limited production capacity, we rely on the non-deployed stockpile for the following reasons: 1) mitigate technical risk in our aging stockpile; 2) provide logistics spares to ensure efficient operations; 3) provide risk management for geopolitical uncertainty. The link is the ability of the infrastructure to assume some of these functions.

C. The SSMP reflects our current estimate of planned reductions in the non-deployed stockpile. Considerations that went into the development of the SSMP included alignment with stockpile modernization milestones and projected infrastructure capabilities. We conduct an annual process to evaluate and adjust stockpile size and composition to meet strategic deterrence requirements and manage risk.

D. We participate in an annual interagency process that proposes stockpile composition and is reviewed by the Nuclear Weapons Council and submitted to the President for approval. A document produced in support of this process contains a detailed breakdown of non-deployed weapons including those retained as a hedge. Release authority resides with the Chairman, Nuclear Weapons Council.

E. I consider three important elements of nuclear modernization: 1) sustainment activities needed to ensure a safe, secure, and effective stockpile and annual stockpile certification; 2) progress on longer-term life extension activities; and, 3) the infrastructure's capacity to support the stockpile and assume some of the functions of the non-deployed hedge. An assessment of these elements is necessary to make informed recommendations on further reductions. It may be possible to make prudent reductions of the non-deployed stockpile without incurring operational risk. Again, from my perspective, the facilities are important, but are not the only considerations associated with non-deployed reductions.

Mr. TURNER. What are STRATCOM's requirements for the Chemistry and Metallurgy Research Replacement (CMRR) facility and Uranium Processing Facility (UPF) in terms of capacity at each facility? When does STRATCOM need the facilities to be fully operational?

a. General Kehler, are you familiar with NNSA's Stockpile Stewardship and Management Plan (SSMP), which projects a 20-year plan for NNSA facilities and assumes further reductions in the number of total warheads? Has STRATCOM fully endorsed that plan for the entire 20-year timeframe it covers? If not, up until when are NNSA and STRATCOM in agreement? As NNSA's customer for the nuclear

weapons it produces and sustains, is STRATCOM in full agreement with NNSA's SSMP plan?

General KEHLER. NNSA's uranium and plutonium facility capacity is important to sustain the stockpile, dismantle retired weapons, and support non-proliferation efforts. These facilities represent a national capability and they need to be updated. USSTRATCOM's requirement is for a capability to conduct surveillance, maintenance and life extensions in sufficient capacity to sustain our deployed and non-deployed stockpile.

A. I am familiar with the SSMP and was consulted during development through the Nuclear Weapons Council. The FY12 SSMP captures the planned activities needed to sustain a safe, secure and effective stockpile. There is DOD and NNSA consensus on the need to modernize the complex and agreement on projected stockpile quantities through FY2030. The stockpile requirements are reviewed annually by an inter-agency process to maintain stockpile effectiveness and manage risks. The plan's execution is dependent on a long-term commitment of funding.

Mr. TURNER. If we continue reducing the total number of nuclear weapons and delivery vehicles, there will naturally be a drive to reduce the number of types of weapons and delivery vehicles. We are already seeing this with consolidation of several B61 variants into a single variant, and the drive to study a common ICBM and SLBM warhead. Are we increasing technical risk by this consolidation—that is, are we increasing the consequences and likelihood of a technical failure that puts a large portion of the stockpile out of action? How are we dealing with this problem as we move towards a smaller stockpile?

General KEHLER. Reducing the total number of nuclear weapon types can allow us to cost effectively sustain capabilities without necessarily increasing technical risk. The principal technical risk is age related degradation. Therefore, comprehensive life extension programs that consolidate variants and improve reliability are more important than multiple weapon types. For example, today there are five aged B61 weapon types in stockpile. Upon completion of the planned B61 life extension there will be single B61 variant with improved long-term reliability. This reduces stockpile resource requirements needed for sustaining this air delivered capability. Likewise, introduction of commonality for multiple ballistic missile warheads increases operational flexibility and allows the reduction of non-deployed warheads retained as a hedge. Consolidation and commonality risk are further managed through acquisition strategies, comprehensive surveillance, and increased component testing over the life cycle.

Mr. TURNER. General Kehler, what are your views on warhead diversity? In what cases would you be comfortable going down to a single warhead or bomb for a leg of the triad or a particular delivery system? For example, why is it helpful to have a B61 and a B83 in terms of failure of one warhead type? Does your view change at smaller stockpile sizes?

General KEHLER. Warhead diversity and condition of the stockpile are important factors in our ability to mitigate the risk of technical failure. Given the "aged" condition of our nuclear weapons and limited production capacity of our complex, diversity becomes significant as we strive to maintain a credible deterrent over a range of potential risk scenarios. However, there is inherent flexibility in our Triad as we can mitigate risk of warhead failure in one leg with a warhead from another. We assess diversity and condition of the stockpile during our annual stockpile planning process.

Mr. TURNER. How would cutting a wing on ICBMs—150 missiles in total—affect STRATCOM's nuclear targeting? Could STRATCOM fulfill the nuclear targeting and employment guidance that exists today, if a wing of ICBMs were eliminated?

General KEHLER. ICBMs remain a valuable component of our nuclear deterrent force. They provide a prompt response option to the President and complicate an adversary's decision calculus in many ways. We are presently looking at a variety of force mixtures that would meet our deterrence objective and fulfill current nuclear targeting and employment guidance. Any decision by the President to reduce the ICBM force, or any other leg of the Triad, could require adjustments to the rest of the strategic force.

Mr. TURNER. Is STRATCOM involved in setting requirements for surveillance activities needed for sustainment and monitoring of the stockpile? How? Is STRATCOM comfortable with NNSA's current surveillance program—does it meet STRATCOM's needs and requirements?

General KEHLER. NNSA establishes the detailed surveillance requirements to ensure data is available to support annual stockpile certification. USSTRATCOM annually assesses the safety, security and military effectiveness of the stockpile based on surveillance findings. Our annual assessment process highlighted the need for the increased surveillance investment contained in the FY11 and FY12 budgets.

These funding levels need to be continued to address the backlog of surveillance activities and improve understanding of our aging systems.

Mr. TURNER. After implementation of the New START Treaty and the NPR, what percentage of our strategic forces will be deployed on submarines?

a. Has the U.S. ever deployed so much of its deterrent on a single platform before? In other words, on one leg of the triad and on one type of submarine, ICBM, or bomber? What risks does the U.S. accept by doing so?

General KEHLER. Current plans detailed in the 1251 Report reflect a ~10% increase in accountable weapons on submarines over current levels.

A. In the early years of the Triad, bombers carried a significant percentage of our nuclear deterrent. As Triad systems developed, distribution of the deterrent became more balanced. The risk of technical failure or technological breakthrough on one leg of the Triad is mitigated by the unique and complimentary attributes of the Triad. Retaining all three legs is the best method to mitigate risk and maintain strategic stability.

Mr. TURNER. The NPR concluded that "the current alert posture of U.S. strategic forces ... should be maintained for the present." Please explain why the NPR reached this decision. What are the benefits of our current alert posture? Do you anticipate changes in this decision?

General KEHLER. In the NPR's comprehensive review assurance, deterrence, nonproliferation, ability to respond to technical and geopolitical challenges and the unlikely event of deterrence failure were considered when examining the nation's nuclear force posture. The posture today provides a responsive and survivable capability day-to-day to the President and it provides an ability to change the posture as necessary in response to a changed environment or crisis. We constantly review our force posture and will adjust it as needed to meet our strategic needs and the operational circumstances.

Mr. TURNER. How does the B61 Life Extension Program (LEP), which would consolidate several different versions of the B61 into a single B61–12 version, link to our extended deterrent in Europe?

a. What are the implications, both to our extended deterrent and more broadly, of delay in the B61 LEP?

b. Why is it important to increase surety in B61 warheads during the LEP?

General KEHLER. The B61 is critical to extended deterrence because it is the only weapon available for delivery by both heavy bombers and tactical fighter aircraft meeting NATO commitments. The LEP addresses critical components that are reaching end-of-life and require replacement and/or refurbishment. Consolidation into a B61–12 conserves resources and reduces life-cycle costs while enabling us to meet both our strategic and extended deterrence requirements.

A. Delay to the LEP timeline will increase risk in meeting the required number of weapons, with the required capabilities, for both strategic and extended deterrence requirements. In addition, there will likely be a substantial cost increase.

B. It is important to improve safety and security while maintaining the effectiveness of nuclear weapons during life extension. The upcoming planned life extension provides an opportunity to cost effectively make these improvements during a time period the nuclear complex has production capacity. It is a prudent course of action to improve surety given the threat of nuclear terrorism.

Mr. TURNER. When will a decision be made regarding how specifically our nuclear forces will be structured to comply with the New START Treaty? When will de-MIRVing of our ICBM forces begin to occur?

General KEHLER. Discussions regarding final nuclear force structure are ongoing. Force structure changes will be reflected in the annual 1251 Reports to Congress. Air Force plans to begin de-MIRVing in FY12.

Mr. TURNER. The 2010 Nuclear Posture Review (NPR) considered potential elimination of one or more legs of the triad, but ultimately decided to keep the full triad. General Kehler, in an interview two weeks ago, you said, "I continue to stand by the need for a triad." Please explain the benefits of the triad, and why you believe we still need it.

General KEHLER. I agree with the results of the NPR study that concluded that we should retain a nuclear triad under the New START Treaty. The triad provides an effective, flexible and resilient capability to deter potential adversaries, assure allies and partners, maintain strategic stability, and defend U.S. and allied interests should deterrence fail. Each leg of the triad provides unique capabilities, and presents an adversary with unique problems.

Mr. TURNER. General Kehler, B–52 and B–2 bombers are hardened to protect them from electromagnetic radiation in the event of a nearby nuclear detonation.

a. What will be the added cost to harden the next generation bomber, vs. leave it unhardened?

b. The Air Force has said it can save money by delaying nuclear certification and hardening of the next generation bomber until the current bombers are readying for retirement. When would this nuclear certification take place—what is the expected initial operational capability date for its nuclear role? Would the next generation bomber be hardened from the start, and just not certified initially? How much money would this save, and when would this savings be realized?

General KEHLER. A. The Air Force is not at the point in the development process that would enable a detailed cost estimate of platform hardening.

B. Testing and nuclear certification schedules have not been determined. We are in consultation with the Air Force as requirements are being developed. Certification needs to occur prior to a capability gap in our air leg. Our understanding is the new bomber will be built from the start to support the nuclear mission. Detailed cost comparisons are not yet available; however, it is more cost effective to nuclear harden early in development than trying to add these capabilities later.

Mr. TURNER. Before New START, the U.S. sea-based strategic deterrent mission was carried out with a force of 14 ballistic missile submarines (SSBN) with 24 missile tubes each. DOD has announced that to comply with New START limits, by 2018 we will have at most 14 SSBNs with 20 missile tubes each. The SSBN(X) "Milestone A" decision earlier this year indicates that when the *Ohio*-class replacement is fully deployed we will make do with 12 SSBNs with 16 missile tubes each.

a. General Kehler, if the reductions in the number of missile tubes and submarines proposed by the Navy's *Ohio*-class replacement "Milestone A" decision take place (from 24 to 16 missile tubes, and from 14 boats to 12), could you still meet the existing targeting and employment guidance that is in place today? Is the "Milestone A" decision anticipating changes in nuclear targeting and employment guidance?

b. To save money, some are proposing that we should further reduce the number of *Ohio*-class replacement submarines we buy, from 12 to 10, or 8, or even lower. General Kehler, given the decreased flexibility we will have by going to a lower number of tubes per boat, what is the minimum number of 16-tube boats we can procure and still meet deterrence and "at-sea" requirements?

c. Documents provided to the committee by the Navy show that the total cost of designing, building, and operating a fleet of 12 *Ohio*-class replacement boats with 20 missile tubes each would have been only 1.75% more (in current year dollars) than the total lifecycle cost of a 12-boat fleet with 16 missile tubes each. General Kehler, are you comfortable with this trade-off in flexibility to save 1.75% of the program's total lifecycle cost?

General KEHLER. A. The Milestone A decision did not assume any specific changes to targeting or employment guidance. Analyses considered a range of potential security environments, strategy requirements, and submarine force structures.

Contingent on funding, the first *Ohio* replacement submarine will be available for strategic service in 2029. While there is uncertainty about the future strategic environment and policy requirements, I am confident that a plan to procure 12 *Ohio* Replacement SSBNs with 16 missile tubes will meet deterrence requirements. The ultimate number of submarines and tubes will depend on a number of factors including our deterrence needs and funding.

B. The number of available SSBNs for strategic service is as important as the number of tubes. Today, 12 operational SSBNs are required to meet deterrence and at-sea requirements. The minimum number of *Ohio* Replacement SSBNs is based on an assessment of the security environment and requirements of the strategy at a given time. There is sufficient flexibility to adjust future force structure plans across the Triad, or if required, procure additional submarines.

C. Yes, I am comfortable with the cost-capability trade that was made to balance fiscal and operational considerations.

Mr. TURNER. Are you concerned about reports about China potentially increasing the MIRVing of its land- and sea-based ballistic missiles? How might this trend affect the nuclear balance and our nuclear policies 10 or 20 years from now? Are you concerned about reports of Russia developing and deploying new heavy, highly-MIRV'd, silo-based ICBMs? How would deployment of this system affect strategic stability and U.S. nuclear policies and strategies? Did the U.S. seek to ban such systems during New START negotiations?

General KEHLER. We take seriously all reports of Russian and Chinese strategic force modernization. Both countries have ambitious programs. In China's case, their efforts involve both modernization and expansion of their forces. However, while there is uncertainty regarding the intended scale of their force expansion, our current assessment is that it is unlikely to affect strategic stability. The possible Russian development and deployment of a new ICBM, which would be replacing an existing system, does not result in a significant change in their capabilities. How this

or any new Russian system ultimately affects strategic stability depends on Moscow's success in deploying the new system and whether the Russians continue to honor their commitments under existing arms control regimes. In the New START negotiations, we did not seek to ban such systems.

Mr. TURNER. At the House Armed Services Committee's October 13 hearing, Secretary of Defense Panetta said, "With regards to reducing our nuclear arena, I think that is an area where I don't think we ought to do that unilaterally—we ought to do that on the basis of negotiations with the Russians and others to make sure we are all walking the same path." To ensure we are not reducing unilaterally, will we retain nuclear forces that are at—or very near—the limits on strategic forces imposed by the New START Treaty? Otherwise, wouldn't it by definition be "unilateral" reductions?

a. Would you support reductions if they were a part of a non-binding agreement with Russia?

b. At what force levels do we need to start bringing the "others" Secretary Panetta mentions, particularly China, into the picture?

Secretary TAUSCHER. a. Both during and after the Cold War, the United States and Russia have agreed to mutual, legally binding, verifiable limits on their strategic nuclear arsenals in order to prevent an arms race, increase transparency, and mitigate mistrust and surprises. These agreements have contributed to building trust and promoting stability in the relationship between the world's two largest nuclear powers. Unilateral reductions would not provide the same level of predictability and stability as agreed upon treaties because there would be no obligation to make or maintain them. Furthermore, there would be no verification regime associated with the reductions.

b. We are mindful of China's military modernization programs, including its nuclear modernization, and the lack of transparency surrounding them. We monitor carefully these developments and, in concert with our allies and partners, will adjust our policies and approaches, as necessary. However, China does not now appear to be seeking parity with either the United States or Russia, and its nuclear arsenal remains much smaller than the U.S. and Russian arsenals. As a declared nuclear weapon state under the NPT, China's restraint in its nuclear modernization is important to nuclear disarmament and global non-proliferation efforts. As the United States and Russia conduct bilateral negotiations to reduce nuclear arsenals further, the United States will seek to expand dialogue with China on the doctrine, force structure, and strategic modernization programs of our two countries to improve mutual understanding, build trust, and reduce the risk of misperception and miscalculation.

Mr. TURNER. Data exchanges and on-site inspections between the U.S. and Russia under the New START Treaty have begun. What are we learning from these exchanges and inspections? Are we learning anything that might facilitate making a future arms control treaty verifiable—specifically a potential future treaty focused on non-deployed warheads and/or non-strategic warheads?

Secretary TAUSCHER. One of the greatest contributions of the New START Treaty is its strong verification regime. This regime was developed to specifically verify the requirements of the New START Treaty. Negotiators worked very hard to find innovative new mechanisms to aid in the verification of this Treaty and the results from the first year of implementing the Treaty have been positive. On-site inspections are now being conducted routinely, as are the daily notification requirements that help track movements and changes in the status of systems. The New START Treaty data exchanges are providing us with a detailed picture of Russian strategic forces and the inspections give us crucial opportunities that we otherwise would not have to confirm the validity of the data required to support verification of the central limits of the New START Treaty.

As we implement New START, we're preparing for further nuclear reduction negotiations with Russia. To date, no previous arms control agreement has included provisions to limit and monitor nondeployed or nonstrategic warheads. Future limits on such warheads would require monitoring and verification different from those used in New START. While the New START Treaty's verification provisions are not intended to provide the United States or Russia any information on each side's nondeployed warheads and/or nonstrategic warheads, the verification regime will help by creating the foundation for future agreements.

Mr. TURNER. What are some of the technical and procedural challenges associated with verifying a potential future treaty with Russia that limits non-deployed and non-strategic weapons? What must be done to resolve these technical and procedural challenges? Do you believe a treaty that limits non-deployed and non-strategic weapons can be fully verifiable?

Secretary TAUSCHER. The monitoring and verification of any potential future treaty limitations on nondeployed or nonstrategic nuclear weapons will be more difficult due primarily to the relatively small physical size of the items to be limited. Security concerns will pose a significant technical challenge to our ability to confirm that an object being counted during routine inspection is actually what it is declared to be; similarly, we would have security concerns regarding Russian access to U.S. nuclear warheads. The fact that air, sea- and ground-launched nonstrategic nuclear weapons are primarily based on delivery vehicles whose primary mission is non-nuclear adds complexity to designing verifiable limits on these weapons.

Mr. TURNER. We have heard that within the Deterrence and Defense Posture Review (DDPR) process, some NATO allies might be encouraging several changes to NATO's nuclear posture, possibly including: (1) consolidation of U.S. nuclear forces in Europe to one or more centralized bases, (2) decreasing the number of dual-capable aircraft our allies are required to maintain, (3) relaxing or eliminating requirements for pilots from allied nations to be trained and exercise in the nuclear mission, and (4) potential removal of U.S. nuclear weapons from Europe.

a. Are any of these actions being considered by the DDPR? Which ones?

b. Would NATO and the U.S. consider taking any of these steps unilaterally, without reciprocal and proportionate action on the part of Russia?

i. What actions would we consider taking unilaterally, and what actions would we only undertake bilaterally with Russia?

ii. What reciprocal actions would the U.S. look for from Russia in exchange for any of these four actions?

Secretary TAUSCHER. The principle task of the Deterrence and Defense Posture Review (DDPR) is to determine the appropriate mix of political and military instruments including conventional, nuclear, and missile defense forces that NATO will need to meet 21st-century security challenges. Alliance nuclear policy will be a key element of the review and there are no pre-ordained outcomes. NATO Allies agreed in the new Strategic Concept that sharing of nuclear risks and responsibilities is fundamental. We believe it is important to share the burden of the nuclear mission as broadly as possible. How best to accomplish this in the future is an issue we are committed to addressing in the DDPR.

In its Strategic Concept, adopted in November 2010, NATO declared: "In any future reductions, our aim should be to seek Russian agreement to increase transparency of its nuclear weapons in Europe and relocate these weapons away from the territory of NATO members. Any further steps must take into account the disparity with the greater Russian stockpiles of short-range nuclear weapons."

The DDPR consultations will help to inform the appropriate posture for forward-based U.S. nonstrategic nuclear weapons in Europe; however, we do not expect that NATO would take steps to eliminate its nuclear capabilities in the absence of reciprocal steps by Russia.

As National Security Advisor Donilon explained on March 29, 2011: "We will work with our NATO allies to shape an approach to reduce the role and number of U.S. tactical nuclear weapons, as Russia takes reciprocal measures to reduce its nonstrategic force and relocates its nonstrategic forces away from NATO's borders."

Mr. TURNER. Are our NATO allies still planning to purchase dual-capable F–35s to replace their aging dual-capable aircraft? How many do they plan to purchase and when? Please describe the plans for NATO countries to replace or modernize their nuclear-capable aircraft, including numbers of aircraft and timelines for purchase. How are these plans being reflected in the DDPR?

Secretary TAUSCHER. All NATO Allies agreed in the new Strategic Concept that the sharing of nuclear risks and responsibilities is fundamental and we believe it is important to share the burden of the nuclear mission as broadly as possible. Dual-capable aircraft and crews are one of the key ways to share the burden of the nuclear mission and as long as forward-based U.S. nonstrategic nuclear weapons remain in Europe, the Alliance needs to commit the resources necessary to maintain that capability. How best to accomplish this in the future is an issue that will be determined following the completion of the DDPR.

Mr. TURNER. The 2010 Nuclear Posture Review (NPR) says that "the presence of U.S. nuclear weapons—combined with NATO's unique nuclear sharing arrangements under which non-nuclear members participate in nuclear planning and possess specially configured aircraft capable of delivering nuclear weapons—contribute to Alliance cohesion and provide reassurance to allies and partners who feel exposed to regional threats."

a. Please explain how the presence of nuclear weapons in Europe contributes to NATO cohesion, reassurance, and stability.

b. In particular, which NATO allies value these nuclear weapons and "feel exposed to regional threats"?

c. Will unanimity among NATO members be required before any major changes are made to our nuclear posture in Europe? What sorts of changes to our nuclear posture in Europe might we undertake without unanimity of NATO members?

Secretary TAUSCHER. All NATO Allies agreed in the 2010 Strategic Concept that deterrence, based on an appropriate mix of nuclear and conventional capabilities, remains a core element of NATO's overall strategy. Allies also agreed collectively that the circumstances in which any use of nuclear weapons might have been contemplated are extremely remote, but as long as nuclear weapons exist, NATO will remain a nuclear alliance. NATO's unique nuclear burden-sharing arrangements assure each member state of the strength of the U.S. commitment to collective defense, easing fears of exposure to regional threats that may arise. The nuclear burden-sharing arrangements also assure the United States that NATO Allies would be key partners in any future and immensely difficult decisions regarding nuclear employment on behalf of NATO. The role of nuclear weapons in defending Alliance members and the threat environment confronting the Alliance are being discussed as part of NATO's Deterrence and Defense Posture Review. Any changes in NATO's nuclear posture, including forward-based U.S. nonstrategic nuclear weapons in Europe, will be taken after a thorough review within—and decisions by—the Alliance as a whole.

Mr. TURNER. Germany and Norway have put forward ideas in the DDPR process to increase transparency in NATO's nuclear mission and NATO's nuclear forces. What transparency measures are being considered?

a. What NATO transparency measures are the U.S. comfortable with NATO doing unilaterally (i.e., without reciprocal and proportionate action by Russia)?

b. What NATO transparency measures would we only consider doing bilaterally based on agreements with Russia? Would you anticipate such bilateral agreements being based on non-binding agreements or through some sort of binding treaty or agreement?

c. How does the administration define "transparency"? How does it define "verification"? How are the two concepts related?

Secretary TAUSCHER. In advance of a new treaty limiting all types of nuclear weapons, we plan to consult with our Allies on reciprocal actions that could be taken on the basis of parallel steps with Russia. At the NATO Foreign Ministerial in Berlin on April 14–15, Poland, Norway, Germany and the Netherlands submitted a non-paper suggesting ways to increase transparency and build confidence with Russia. After the receipt of this non-paper, NATO's North Atlantic Council (NAC) tasked the Weapons of Mass Destruction Control and Disarmament Committee (WCDC) to provide input into the DDPR on possible options for reciprocal measures to reinforce and increase transparency, mutual trust and confidence with Russia. In the WCDC, NATO is now developing transparency and confidence-building options that could be pursued on a reciprocal basis with Russia. Initially, we would like to increase transparency on a reciprocal basis on the numbers, locations, and types of nonstrategic forces in Europe. Any transparency measures on U.S. NSNW forward-based in Europe would require Alliance agreement.

Transparency builds stability and security by helping to ensure against strategic surprise and by building the necessary confidence for force planning based on a realistic view of the current and likely force levels of others. Verification, the process by which we gather and analyze information to make a judgment about parties' compliance or non-compliance with an agreement, is an integral part of the arms control regime. This Administration, as well as previous Administrations before it, evaluates effective verification of nuclear arms control agreements based on our ability to detect militarily significant violations before they become a threat to our national security. As stated in the 1992 report on START Treaty verifiability to the Senate Foreign Relations Committee:

"A key criterion in evaluating whether a START agreement is effectively verifiable is whether, if the other side attempts to move beyond the limits of the Treaty in any militarily significant way, we would be able to detect such a violation well before it becomes a threat to national security so that we are able to respond. Additionally, the verification regime should enable us to detect patterns of other violations that, while they do not present immediate risks to U.S. security, could, if left unchallenged, encourage actions that would pose such risks."

At least to the extent the parties trust in the information they receive through transparency measures, such measures can help bolster our confidence in the verifiability of a relevant arms control agreement.

Mr. TURNER. How does the B61 Life Extension Program (LEP), which would consolidate several different versions of the B61 into a single B61–12 version, link to our extended deterrent in Europe?

a. What are the implications, both to our extended deterrent and more broadly, of delay in the B61 LEP?

b. Why is it important to increase surety in B61 warheads during the LEP?

Secretary TAUSCHER. The B61 bombs assigned to support NATO are intended to provide for the collective security of all Alliance members. The B61 bombs couple U.S. and NATO security, and tangibly assure the members of NATO that the United States is committed to their national security. NATO is currently in the process of reviewing its nuclear posture as part of the Deterrence and Defense Posture Review and there are no pre-ordained outcomes. However, as long as forward-based U.S. nonstrategic nuclear weapons remain in Europe the Alliance needs to commit the resources necessary to maintain that capability and the B61 LEP is an important element of that.

Mr. TURNER. Mr. Franks asked for several pieces of information, but I wanted to reiterate those requests and add one of my own. Please provide the information requested within two weeks:

a. In your recent remarks at the Atlantic Council, you stated the following, "the Obama Administration's approach provided more protection sooner against the existing threat, using proven systems, and at a lower cost than the previous proposal." Your legislative affairs staff was asked to provide this committee the basis for the statement "at a lower cost than the previous proposal." Please provide the information requested to the committee within two weeks.

b. Please provide this committee, within two weeks, a comprehensive, whole-of-the-federal-government cost for each phase of the EPAA.

c. We understand the Department of State is advocating the return of export control responsibility for commercial satellites and their related components to the Department of Commerce. I also understand the Department of State contracted with the Aerospace Corporation, through Project West Wing, to develop a Counter Space Technology List. Our committee staff has been asking for this list for over a month, with no progress. Please provide a copy of this report to the committee within two weeks.

Secretary TAUSCHER. a. One element of the basis for the statement is that the Standard Missile (SM)-3, at around $10 million per interceptor, is much cheaper than a GBI, which costs approximately $60 to $70 million per interceptor. This means that we can deploy many more SM–3 interceptors than GBIs at the same cost. Since Iran already possesses hundreds of short- and medium-range ballistic missiles, this additional defensive capability is critical. In addition, the EPAA (European Phased Adaptive Approach) relies on capabilities that are mobile and relocatable, so additional capabilities can "surge" into the region in a crisis. Furthermore, the deployment of the AN/TPY–2 radar to Turkey will also greatly improve U.S. and NATO's capability to protect against the existing threat from short- and medium-range ballistic missiles.

It is important to note that the EPAA is not an acquisition program but a policy framework for delivering capabilities of which the principal attribute is flexibility. By design, it can be enhanced, expanded, and supplemented in each phase.

b. The Department of Defense would be the appropriate organization to provide a cost estimate of the EPAA.

c. The Department of State, after consultation with the Department of Defense, is advocating the return of export control responsibility for commercial satellites and their related components to the Department of Commerce, while retaining State Department jurisdiction over sensitive military and intelligence related satellites, components, and technology. The Counterspace Sensitive Technology List (CSTL) is an ongoing research and analytical project which is projected to be completed in late 2012. In short, there is no finished report or list to provide at this time. We would be pleased to provide a classified briefing to the committees of jurisdiction on the CSTL effort.

Mr. TURNER. What are some of the technical and procedural challenges associated with verifying a potential future treaty with Russia that limits non-deployed and non-strategic weapons? What must be done to resolve these technical and procedural challenges? Do you believe a treaty that limits non-deployed and non-strategic weapons can be fully verifiable?

Mr. D'AGOSTINO. A future treaty that includes limits on non-deployed and non-strategic weapons could pose technical and procedural challenges, depending on the specific terms of the treaty. From the perspective of the National Nuclear Security Administration (NNSA), one of the technical challenges that we are investigating to help inform future decisions is warhead authentication, especially for non-deployed warheads. In particular, we are investigating the technical means to provide confidence that an object declared to be a nuclear warhead is a warhead through radiation and other measurement techniques. This is different from the New START

Treaty, for example, where radiation measurements may be used to confirm that an object placed on a deployed delivery system and declared to be non-nuclear is in fact non-nuclear, and therefore not counted as a warhead. We also are investigating technical and procedural measures to provide warhead chain of custody over time and between different locations. This kind of analysis and capability development is necessary to understand the full scope of the challenges associated with verifying a potential future treaty, and NNSA is accomplishing important work in this regard.

An assessment of the verifiability of a future treaty would need to be made by the U.S. national security community with supporting analysis from the Intelligence Community. Such an assessment can only be made once the specific terms of a treaty are known. From a technical and procedural perspective, I am confident that we will be able to provide the tools necessary for verification.

Mr. TURNER. Administrator D'Agostino, earlier this year, you testified before this subcommittee that NNSA's new plutonium and uranium facilities—the Chemistry and Metallurgy Research Replacement (CMRR) facility in New Mexico and the Uranium Processing Facility (UPF) in Tennessee—need to be "up and running" before we make substantial cuts to the non-deployed hedge force.

a. Please describe the relationship between modernizing our nuclear infrastructure and the potential future ability to reduce non-deployed weapons.

b. What metrics should we be using to judge that the infrastructure is robust enough to support reductions in the non-deployed stockpile without undue risk?

c. Do NNSA and DOD have a clear plan on what reductions in the non-deployed stockpile are possible or planned for the future, and how those reductions align with infrastructure and stockpile modernization milestones? Please provide the committee a timeline showing, side-by-side, the modernization plan with reductions in the non-deployed stockpile deemed possible by the modernization effort.

d. If one or both of UPF and CMRR are delayed in getting "up and running," what levels and types of non-deployed warheads would you recommend keeping in the stockpile as a risk mitigation measure or "hedge"? Please be specific.

Mr. D'AGOSTINO. a. Implementation of the Stockpile Stewardship Program and appropriate nuclear infrastructure investments will allow the United States to shift away from retaining the large numbers of non-deployed warheads that are kept as a hedge against technical or geopolitical surprise, allowing further reductions in the overall nuclear stockpile. Investment is critical for maintaining a credible deterrent and managing risk as stockpile reductions are made. NNSA works closely with the Department of Defense in the Nuclear Weapons Council to appropriately manage risk.

b. Page 34, Table 2 of the FY 2012 Stockpile Stewardship and Management Plan summarizes the current and future infrastructure capacities for each major NNSA mission function that directly supports the stockpile. These represent the infrastructure improvements needed as of April 2011 to support any future stockpile, which may include reductions to non-deployed weapons. The infrastructure improvement areas include:

- Design Certification, Experiments, and Surveillance
- Plutonium
- Uranium
- Tritium
- High Explosives
- Non-nuclear, and
- Special Nuclear Materials Storage.

Analysis continues on continuing to meet these mission functions under the caps established by the Budget Control Act.

c. Details of stockpile size and composition are classified and are updated annually by the Nuclear Weapons Council and provided to the President for approval. Classified Annex B of the FY 2012 Stockpile Stewardship and Management Plan provides stockpile details as reflected in the Fiscal Year 2011–2017 Nuclear Weapons Stockpile Memorandum and the FY 2011–2024 Requirements and Planning Document. Also included in Annex B is a discussion of potential future stockpiles based on events/assumptions regarding infrastructure improvements and geopolitical environment.

d. The specific effects on stockpile size and composition would need to be addressed in a study in conjunction with the Department of Defense.

Mr. TURNER. The House Appropriations Committee reported a Defense Appropriations bill that contains a 1% reduction from the President's budget request for DOD. The House Appropriations Committee reported an Energy and Water appropriations bill that contains a 10% reduction for NNSA and all of its defense activities. This came after strong and vocal support from Secretary Gates and senior military leaders for NNSA's full budget request. How do these discrepancies affect planning,

budgeting, and coordination between NNSA and DOD on the overall nuclear security enterprise? Should all aspects of the nuclear security enterprise be consolidated into a single budgetary and appropriations authority?

Mr. D'AGOSTINO. NNSA is currently executing the FY 2012 enacted appropriations in coordination with DOD and will continue to work with DOD on the FY 2013 request. NNSA closely coordinates efforts with DOD on identifying programmatic requirements in various reports, such as Annual and Quarterly Reviews conducted by the Nuclear Weapons Council (NWC).

Consolidation of the nuclear security enterprise (NSE) with DOD appropriations would be at odds with the tenets of civilian agency control over the NSE as identified in the Atomic Energy Act and the NNSA Act. As such, NNSA does not believe all aspects of the nuclear security enterprise can, or should be, consolidated into a single budgetary and appropriations authority.

Mr. TURNER. If we continue reducing the total number of nuclear weapons and delivery vehicles, there will naturally be a drive to reduce the number of types of weapons and delivery vehicles. We are already seeing this with consolidation of several B61 variants into a single variant, and the drive to study a common ICBM and SLBM warhead. Are we increasing technical risk by this consolidation—that is, are we increasing the consequences and likelihood of a technical failure that puts a large portion of the stockpile out of action? How are we dealing with this problem as we move towards a smaller stockpile?

Mr. D'AGOSTINO. The Triad provides a sufficiently flexible force structure that allows the U.S. to hedge effectively by shifting weight from one Triad leg to another if necessary due to unexpected technological problems or operational vulnerabilities. The pursuit of a common warhead strategy is intended to provide the opportunity to manage risk while reducing the total size of the stockpile. This approach allows reductions to be made while maintaining the required stockpile hedge, and it is our judgment that this approach may be pursued in a manner that assures technical diversity. Therefore, studies conducted for all future life extension programs will consider the implications, including technical risk, of using the resulting warhead on multiple platforms in order to reduce the number of warhead types.

Mr. TURNER. Do you anticipate having to shift NNSA's budget and priorities to help pay for the B61 life extension? Do you anticipate pushing the W78 LEP further into the future, or reprioritizing funds allotted for the Science Campaign to B61 LEP work? How would such shifts affect future LEPs like the W78? Is NNSA considering making the B61–12 nuclear explosive package compatible with a future air-launched cruise missile; is such a requirement part of the B61 LEP?

Mr. D'AGOSTINO. NNSA is formulating our budget and priorities to balance the Nation's need for modernized weapons against our ability to manage, maintain, and certify the nuclear stockpile without the requirement for underground testing. Activities such as the B61 life extension are being scrutinized to ensure that their costs and benefits are appropriate. Budget changes are being assessed as part of the FY 2013 budget development, to include appropriate alignment of Directed Stockpile Work and campaign activities with the B61 LEP development and certification work. Considering the Department of Defense's broader needs and the throughput of our Nuclear Security Complex, NNSA is finalizing schedules and budgets that realistically include the B61 and W78 life extension programs into the overall NNSA priority matrix.

While there is no current requirement to make the B61 nuclear explosive package (NEP) compatible with the future air launched cruise mission, the Air Force and NNSA are evaluating the B61 NEP as a candidate for the future cruise mission as well as other existing warheads such as the W80 and W84.

Mr. TURNER. Now that we are leaving a period of several decades with minimal nuclear weapons design, engineering, and production work and entering a long period of continual warhead life extension programs, how is NNSA shifting its budget and priorities?

a. Is funding for scientific capabilities, which sustained the human capital and led to dramatically better understanding of nuclear weapon science when we were not actively working on the stockpile, shifting toward design, engineering, and production activities to sustain and modernize the warheads?

b. Given the fiscal environment, is it possible to sustain the current levels of expenditures on science and also successfully execute the LEPs and direct stockpile work, as well as infrastructure modernization?

c. Has NNSA prioritized what science capabilities are critical for stockpile assessment and certification, and which may be secondary for that purpose? What are those priorities?

d. In real dollar terms, how much does NNSA plan to spend in FY12 on LEPs and other activities directly related to design, engineering, and production of nu-

clear weapons (not surveillance or science-based capabilities that enable assessments and certification), as compared to history (e.g., 10, 20, and 30 years ago)?

e. Has NNSA considered a continual low-rate production model for sustaining the stockpile, as opposed to its current approach of discrete and infrequent LEPs? What are the costs, benefits, and risks of such an approach as compared to the current approach? How might this analysis change if the size and diversity of the stockpile decrease?

Mr. D'AGOSTINO. a. No, funding for scientific capabilities is not being shifted to engineering or production, since scientific capabilities are essential to effect the modernization of the stockpile along with stewarding the existing stockpile, as explained in Chapter 3 of the FY 2012 Stockpile Stewardship and Management Plan. Science, engineering, and manufacturing are neither mutually exclusive nor fungible. There was no time in the past when we were not working actively on maintaining the stockpile. Notable stewardship milestones over the past 15 years include certification of the B61–11 in 1997 (the first new modification introduced into the stockpile since the end of testing); the completion of the W87 LEP in 2004; delivery of new pits manufactured in Los Alamos to the stockpile in 2007; and the design, engineering, and ongoing production and delivery of the W76 LEP.

In parallel, we have developed new Stockpile Stewardship facilities, including the Dual Axis Radiographic Hydrodynamic Test (DARHT) facility; the Microsystems and Engineering Sciences Applications (MESA) complex; the National Ignition Facility (NIF); Proton radiography; the Joint Actinide Shock Physics Experimental (JASPER) facility and U1a facilities at the Nevada National Nuclear Security (NNSS); as well as the extraordinarily successful series of the Advanced Simulation and Computing (ASC) platforms.

All of these science and technology tools are being applied today to improve understanding and predictive capability for the stockpile, without recourse to new underground tests. While priorities do change and new problems arise each year, the necessary adjustments and reprioritizations have taken place throughout the history of the program and are reflected in the budget requests for each year in the past and in the future years nuclear security plan (FYNSP).

b. Yes, the President's budget provides a balanced portfolio of infrastructure modernization, stockpile sustainment, and pursuit of the fundamental science, technology, and engineering necessary to maintain a safe, secure, and reliable stockpile, as outlined in the FY12 SSMP. Much of this effort is still in the design phase, and as the designs are completed, NNSA will make adjustments to ensure the portfolio remains balanced.

c. Yes, NNSA has prioritized the science capabilities for Stockpile Stewardship, and this has resulted in the set of capabilities that have been supported and constructed over the past 20 years. These priorities are reflected in the annual budget requests and SSMPs. Any capabilities that are less than essential to Stockpile Stewardship have already had their supporting budgets reduced or eliminated, or are now principally supported by work for other Government agencies.

Every year the science, technology, and engineering community has a summit with the Directed Stockpile Work teams to ensure that the long terms needs for stewardship without underground testing are being optimized to support near-term Life Extension activities, as well. There are a number of great, recent examples of this relating to multipoint safety, high explosives performance, and surety.

d. For FY 2012, the President's Budget request for Directed Stockpile Work is $1,963,583,000. That includes $239 million for surveillance. Without surveillance, DSW together with supporting Readiness and Engineering campaigns, are about 26% of the Weapons Activity budget. For the period 2001–2011, a similar comparison is presented in the table below. Due to drastic differences in how nuclear weapons budgets were structured prior to 2001, we cannot provide a meaningful comparison prior to that year. Additionally, a significant portion of the Readiness in the Technical Base and Facilities budget and the campaigns budgets directly support stockpile sustainment outside of the support they provide to stockpile surveillance and that spending is not included in these percentages.

Table 1: Yearly Percentage of Weapons Activities Funding Used for DSW (Without Surveillance) and Readiness and Engineering Campaign

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Percent	25	23	24	28	25	26	26	25	27	25	27

e. NNSA is currently evaluating ways to optimize its life extension program to achieve multiple objectives, including enhanced technology maturation and integration, sustainment of the highly specialized workforce, program affordability, increased interoperability (common technologies), and increased technology insertion opportunities. Costs, benefits and risks are being analyzed as part of this evaluation. Once approved, the updated life extension program will be described in the next Stockpile Stewardship and Management Plan.

Mr. TURNER. How does the deployment of the B61–12 warhead align with deployment of nuclear-capable F–35s? Is deployment of the two systems linked? Can one deploy without the other, while still retaining our nuclear capability in Europe?

Mr. D'AGOSTINO. The deployment of the B61–12 is well aligned with the deployment of the nuclear-capable F–35 Joint Strike Fighter (JSF) program, but they are not linked. The JSF with nuclear capability is planned to be deployed a few years after that the first production unit for the B61.

A key element of the B61–12 Life Extension Program is interoperability with current and planned future aircraft.

Mr. TURNER. When NNSA conducts a life extension program on a particular weapon type, will NNSA extend the life of all warheads of that type, including those in the non-deployed "hedge" part of the stockpile? Or will it only extend those weapons in the active, deployed part of the stockpile?

Mr. D'AGOSTINO. The scope of each life extension program (LEP) is determined by the Nuclear Weapons Council and requirements for quantities are documented in the NWC Requirements and Planning Document (RPD). For each LEP, NNSA plans to replace the existing weapons (i.e., both active and inactive weapons) with life-extended weapons per quantities provided in the RPD. The "hedge" is a portion of the inactive stockpile.

Mr. TURNER. What role did DOE and NNSA play in selection of the new directors of Los Alamos National Lab and Lawrence Livermore National Lab? Specifically, how were you and Secretary Chu involved? Given the critical role the lab directors play in providing the President and Congress independent assessments on the safety, security, and reliability of the nuclear stockpile, do you believe it is important for the lab directors to have extensive backgrounds in nuclear weapons research, design, production, and assessment?

Mr. D'AGOSTINO. Under DOE's contracts with Los Alamos National Security, LLC, and Lawrence Livermore National Security, LLC, the respective Boards of Governors are responsible for the selection of the laboratory directors. As laboratory directors are considered "key personnel," the respective Contracting Officers of the LANS and LLNS contracts must approve the selection of the laboratory directors. The Secretary of Energy and I have no formal role in the selection process, but as a courtesy, the Secretary was asked to concur in the selection of Charles McMillan as the Los Alamos Laboratory Director, and Penrose C. Albright, as the Lawrence Livermore Laboratory Director, which he did.

I believe it is important for laboratory directors to be qualified scientists that understand the complex phenomena that arise as issues in research, design, production and assessment.

Mr. TURNER. Please provide the committee, before December 15, a list and description of the managerial and functional areas (e.g., legal, safety, security, health, human resources, etc.) in which the Department of Energy is involved in NNSA activities, including detailed descriptions of such involvement.

Mr. D'AGOSTINO.

• Legal Functions

Within the Department of Energy, NNSA is managed by the Under Secretary for Nuclear Security, who reports to the Secretary. In accordance with section 3213(a) and (b) of the National Nuclear Security Administration Act (NNSA Act), NNSA employees "shall not be responsible to, or subject to the authority, direction, or control of, any . . . officer, employee, or agent of the [DOE]" other than the Secretary of Energy, acting through the NNSA Administrator, the NNSA Administrator, or the NNSA Administrator's designee within NNSA. 50 U.S.C. 2403(a) and (b). In implementing the mission of NNSA (NNSA Act § 3211(b), 50 U.S.C. 2401(b)), NNSA has 18 functional areas of responsibility, as identified in section 3212 of the NNSA Act; these include, for example: budget formulation, guidance, and execution, and other financial matters; policy development and guidance; program management and direction; safeguards and security, emergency management; environment, safety, and health operations; administration of contracts, including the management and operations of the operations of the nuclear weapons production facilities and the national security laboratories; legal matters; legislative affairs, and public affairs. 50 U.S.C. 2402(b).

As part of the Department of Energy, NNSA is subject to all Departmental regulations, orders, and policies in all functional areas, except that the NNSA Administrator may establish NNSA-specific policies, unless disapproved by the Secretary of Energy. NNSA Act, § 3212(d), 50 U.S.C. 2402(d). *See also* the response to Q73b, below [Appendix page 155].

• DOE'S Involvement in NNSA Security Activities

1. *Rule making and Directives*. The Office of Health, Safety and Security (HSS) has primary responsibility for rule-making, and for developing and maintaining directives in the areas of nuclear safety, worker safety and health, and **security** (the NNSA Act also gives the Administrator authority to develop NNSA policies; this authority has been used for some safety and security requirements).

2. *Inspections.* The HSS Office of Enforcement and Oversight conducts independent external reviews to evaluate the implementation of DOE requirements by DOE contractor and Federal operating organizations, evaluate the oversight of operations by DOE Program offices; and determine the adequacy of DOE requirements to DOE operations..

3. *Enforcement*. The HSS Office of Enforcement and Oversight also administers the enforcement process for the nuclear safety, worker health and safety, and classified information security rules (10 CFR Part 820, 10 CFR Part 830, 10 CFR Part 835, 10 CFR Part 850, 10 CFR Part 851, 10 CFR Part 708, and 10 CFR Part 824). Based on the NNSA Act, the NNSA Administrator is assigned the authority upon which regulatory direction and enforcement is provided to NNSA Contractors.

4. *Technology and Data Sharing.*

a. *Electronic Data Bases and Transfer of Data between Department of Energy (DOE) and other Federal Agencies*

NNSA personnel security is required to use the DOE's Electronic Integrated Security System (eDISS+) to collect, process, store, and transfer personnel security data into the Central Verification System (CVS) maintained by the U.S. Office of Personnel Management (OPM). CVS is a national database used by all federal agencies for suitability/clearance verifications.

The web-based Central Personnel Clearance Index (WebCPCI), which is one of the many parts of the eDISS+ initiative, tracks security clearance activity for DOE employees, contractors, and associated personnel, and provides report and query capability to Personnel Security, Headquarters, and Departmental offices. Within WebCPCI, individuals are assigned a Case Folder containing information on clearances, investigations, adjudicative codes, administrative reviews, and case folder actions.

WebCPCI's "e-delivery" capability is exclusively used to electronically receive and forward completed background investigations from the Office of Personnel Management (OPM) to the respective Personnel Security Office (PSO). WebCPCI is also the system of record PSO's primarily use to verify that an active facility clearance (FCL) code has been approved and registered into the Department's Safeguards and Security Information Management System (SSIMS) before granting a security clearance. DOE/HSS personnel are responsible for entering FCLs into WebCPCI once notified that an FCL has been approved and registered into SSIMS.

b. *Data Sharing from external Federal Agency, specifically Intelligence Reform and Terrorism Prevention Action data from OPM regarding timeliness, volume, etc.*

Office of Management and Budget (OMB) is provided the information regarding case timeliness by OPM. HSS has a responsibility to track and trend the case timeliness; however, they are a pass-through organization, not calculating the actual case times. On a monthly and quarterly basis, DOE provides to each Personnel Security Organization an agency roll up for the Personnel Investigation Program in the form of the *OPM Federal Investigative Services' Agency Specific Performance Metrics.* The data identifies the End-to-End Overall Timeliness for the fastest 90% of the access authorizations reported, initiated, investigated, and adjudicated in response to the Intelligence Reform Terrorism and Prevention Act of 2004 requirements.

5. *Budget*

a. *Payments to Other Federal Agencies for Personnel Security Background Investigations*

Security Investigations are paid via an Intra-Governmental Payment and Collection (IPAC) which is basically a transfer of funds from one Government treasury account to another

- HSS remains the OPM point of contact for all investigation invoices
- HSS receives one invoice from OPM for all of DOE
- HSS breaks down the invoice by DOE organization and forwards to the appropriate DOE Organization for payment instruction

- DOE Organizations send payment information back to HSS
- HSS sends entire invoice to DOE financial POC so that payment can be aligned into the DOE financial system

b. *Homeland Security Presidential Directive (HSPD)-12 Budget*

- Process is very similar to approach listed above for Investigations
- HSS is the point of contact with GSA
- In fiscal year (FY) 2011, HSS sent NNSA estimated costs and PSD coordinated all NNSA funding back to HSS
- Process for FY12 will be similar

6. *Facility Clearance:* There can be DOE involvement in the registration of security activities which includes the Foreign Ownership Control or Influence (FOCI) element. Within the FOCI program, DOE counterintelligence and legal interactions may be required when making a FOCI determination.

7. *Counterintelligence and Intelligence Support:* The Department's Office of Intelligence and its Office of Counterintelligence, each having been established by the NNSA Act of FY 2000, are now structured as part of the combined DOE Office of Intelligence and Counterintelligence (DOE/IN). NNSA relies upon DOE/IN for the effective conduct of its mission. The support is critical to the success of our core missions in Defense Programs and Nuclear Nonproliferation as well as Security and Nuclear Counterterrorism. Foreign intelligence collection and analyses inform our understanding of other countries' capabilities and Counterintelligence (CI) protects our own assets and capabilities from compromise or sabotage.

The CI directorate has aligned its functional capabilities to address the key mission areas of Insider Threat, Foreign Risk Management (regarding presence in and interaction with National Laboratories), Threat Assessment (to support security and CI objectives), Security (to manage clearances and SCIF's), and Investigations (with oversight of CI investigations and operations across the complex).

The Intelligence Analysis Directorate maintains its focus on foreign energy and nuclear matters, as well as science and technology capabilities more broadly.

The IN Cyber Directorate is composed of four divisions: Strategic Initiatives, Network Architecture and Engineering Service, Information Technology Support, and Cyber Operations. The NNSA Chief Information Officer works in close collaboration with the IN Cyber Directorate to ensure comprehensive protection of NNSA networks and associated information.

The Field Intelligence Elements (FIE's) of DOE/IN located within the NNSA laboratories and at the Nevada Nuclear Security Site (NNSS) have a unique status. The lab FIE members are employees of the laboratory Management and Operating contractors. But, under a narrow exception to the general NNSA Act prohibition of DOE direction and control of NNSA personnel (Sec 3117 of the FY 2007 National Defense Authorization Act) as well as provisions in the updated Executive Order 12333, they are not only subject to direction and control of DOE/IN but they (and the rest of IN) are also part of the U.S. Intelligence Community, subject to the direction of the Director of National Intelligence. NNSA relies upon DOE/IN to help manage the Intelligence Work accomplished at the NNSA labs in support of the Intelligence Community and other national security customers.

Listing of Security Rules and Directives provided as separate attachment [see Appendix page 98]; however, the response to 73.b. should include this information.

Listing of Security Rules and Directives

This listing may not contain all applicable National level policy documents or Departmental Orders.

Directive	Title/Comment
1. 5 CFR 732	National Security Positions
2. 5 CFR 736	Personnel Investigations
3. 10 CFR 30 through 40	Rules of general applicability to domestic licensing of by-product material
4. 10 CFR 72	Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-level Radioactive Waste, and Reactor-related great than Class C Waste
5. 10 CFR 74	Material Control and Accounting of Special Nuclear Material
6. 10 CFR 707	Workplace Substance Abuse Programs at DOE Sites
7. 10 CFR Part 710, Subpart A	General Criteria and Procedures for Determining Eligibility for Access to Classified Matter or Special Nuclear Material
8. 10 CFR Part 712	Human Reliability Program
9. 10 CFR 725	Permits for Access to Restricted Data
10. 10 CFR 824	Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations
11. 10 CFR Part 860	Trespassing on Department of Energy Property

12. 10 CFR 862	Restrictions on Aircraft Landing and Air Delivery at DOE Nuclear Sites
13. 10 CFR 1016	Safeguarding of Restricted Data
14. 10 CFR 1017	Identification and Protection of Unclassified Controlled Nuclear Information
15. 10 CFR 1044	Security Requirements for Protected Disclosures under section 3164 of the National Defense Authorization Act for fiscal year 2000
16. 10 CFR 1045	Nuclear Classification and Declassification
17. 10 CFR Part 1046	Physical Protection of Security Interests
18. 10 CFR 1046, Subpart B	Protective Force Personnel
19. 10 CFR Part 1047	Limited Arrest Authority and Use of Force by Protective Force Officers
20. 32 CFR 2001	Classified National Security Information
21. DOE O 142.3A	Unclassified Foreign Visits and Assignments Program
22. DOE P 205.1	Departmental Cyber Security Management Policy
23. DOE O 205.1B	Department of Energy Cyber Security Program
24. DOE M 205.1–3	Telecommunications Security Manual
25. DOE N 206.4	Personal Identity Verification
26. DOE O 227.1	Independent Oversight Program
27. DOE P 310.1	Maximum Entry and Mandatory Separation Ages for Certain Security Employees
28. DOE O 452.4B	Security and Use Control of Nuclear Explosives and Nuclear Weapons
29. DOE O 452.6A	Nuclear Weapon Surety Interface with the Department of Defense
30. DOE O 452.7	Protection of Use Control Vulnerabilities and Designs
31. DOE O 452.8	Control of Nuclear Weapon Data
32. DOE O 457.1	Nuclear Counterterrorism
33. DOE M 457.1–1	Control of Improvised Nuclear Device Information
34. DOE O 461.2	Onsite Packaging and Transfer of Materials of National Security Interest
35. DOE P 470.1A	Safeguards and Security Program
36. DOE O 470.3B	Graded Security Protection (GSP) Policy
37. DOE O 470.4B	Safeguards and Security Program
38. DOE O 471.1B	Identification and Protection of Unclassified Controlled Nuclear Information
39. DOE O 471.3	Identifying and Protecting Official Use Only Information
40. DOE M 471.3–1	Manual for Identifying and Protecting Official Use Only
41. DOE O 471.5	Special Access Programs
42. DOE O 471.6	Information Security
43. DOE O 472.2	Personnel Security
44. DOE O 473.3	Protection Program Operations
45. DOE O 474.2	Nuclear Material Control and Accountability
46. DOE O 475.1	Counterintelligence Program
47. DOE O 475.2A	Identifying Classified Information

Within the Department of Energy, NNSA is managed by the Under Secretary for Nuclear Security, who reports to the Secretary. In accordance with section 3213(a) and (b) of the National Nuclear Security Administration Act (NNSA Act), NNSA employees "shall not be responsible to, or subject to the authority, direction, or control of, any ... officer, employee, or agent of the [DOE]" other than the Secretary of Energy, acting through the NNSA Administrator, the NNSA Administrator, or the NNSA Administrator's designee within NNSA. 50 U.S.C. 2403(a) and (b).

As part of the Department of Energy, NNSA is subject to all Departmental regulations, orders, and policies in all functional areas, except that the NNSA Administrator may establish NNSA-specific policies, unless disapproved by the Secretary of Energy. NNSA Act, § 3212(d), 50 U.S.C. § 2402(d). The U.S. Office of Personnel Management (OPM) provides oversight with DOE's Office of Human Capital of NNSA's human resources systems via a periodic review of efficiency, effectiveness and compliance with regulations and law in the following areas: strategic alignment, leadership and knowledge management, performance culture, talent management, and accountability. Delegated Examining authority (to hire using competitive procedures) flows through the Secretary of Energy from the OPM to NNSA. Employee appointments and removals for Senior Executive Service and other Executive Review Board actions are subject to review or oversight by DOE. Use of the DOE excepted service authorities (EJ and EK) is subject to approval by DOE. Technical Qualifications Program (TQP) Policy is owned by DOE, and DOE provides oversight of NNSA's management of the TQP. NNSA Diversity and EEO Policy is subject to review and

concurrence by DOE. Personnel recordkeeping systems are owned by DOE and must comply with OPM requirements.

Mr. TURNER. Please provide the committee, before December 15, a comprehensive list of all DOE Orders, Manuals, and any other DOE regulations to which NNSA and/or its labs, plants, and facilities are held or are subject to.

Mr. D'AGOSTINO. A comprehensive list of all current DOE directives (Policy, Orders, and Manuals) can be found at: www.directives.doe.gov.

An excerpt of the current DOE directives from the web site is attached below. Please note the listing includes Guides which are non-mandatory.

Listed below are the DOE Regulations to which the NNSA is subject. [Response to Q73b, for cross-reference—ed.]

List of Applicable DOE Regulations

1. 10 CFR Part 202—Production or Disclosure of Material or Information
2. 10 CFR Part 205—Administrative Procedures and Sanctions
3. 10 CFR Part 600—Financial Assistance Rules
4. 10 CFR Part 601—New Restrictions on Lobbying
5. 10 CFR Part 602—Epidemiology and Other Health Studies Financial Assistance Program
6. 10 CFR Part 603—Technology Investment Agreements
7. 10 CFR Part 605—The Office of Energy Research Financial Assistance Program
8. 10 CFR Part 609—Loan Guarantees for Projects That Employ Innovative Technologies
9. 10 CFR Part 611—Advanced Technology Vehicles Manufacturer Assistance Program
10. 10 CFR Part 622—Contractual Provisions
11. 10 CFR Part 624—Contract Clauses
12. 10 CFR Part 625—Price Competitive Sale of Strategic Petroleum Reserve Petroleum
13. 10 CFR Part 626—Procedures for Acquisition of Petroleum for the Strategic Petroleum Reserve
14. 10 CFR Part 706—Security Policies and Practices Relating to Labor-Management Relations
15. 10 CFR Part 707—Workplace Substance Abuse Programs at DOE Sites
16. 10 CFR Part 708—DOE Contractor Employee Protection Program
17. 10 CFR Part 709—Counterintelligence Evaluation Program
18. 10 CFR Part 710—Criteria and Procedures for Determining Eligibility for Access to Classified Matter or Special Nuclear Material
19. 10 CFR Part 712—Human Reliability Program
20. 10 CFR Part 715—Definition of Non-Recourse Project-Financed
21. 10 CFR Part 719—Contractor Legal Management Requirements
22. 10 CFR Part 725—Permits for Access to Restricted Data
23. 10 CFR Part 727—Consent for Access to Information on Department of Energy Computers
24. 10 CFR Part 733—Allegations of Research Misconduct
25. 10 CFR Part 745—Protection of Human Subjects
26. 10 CFR Part 760—Domestic Uranium Program
27. 10 CFR Part 765—Reimbursement for Costs of Remedial Action at Active Uranium and Thorium Processing Sites
28. 10 CFR Part 766—Uranium Enrichment Decontamination and Decommissioning Fund; Procedures for Special Assessment of Domestic Utilities
29. 10 CFR Part 770—Transfer of Real Property at Defense Nuclear Facilities for Economic Development
30. 10 CFR Part 780—Patent Compensation Board Regulations
31. 10 CFR Part 781—Doe Patent Licensing Regulations
32. 10 CFR Part 782—Claims for Patent and Copyright Infringement
33. 10 CFR Part 783—Waiver of Patent Rights
34. 10 CFR Part 784—Patent Waiver Regulation
35. 10 CFR Part 800—Loans for Bid or Proposal Preparation by Minority Business Enterprises Seeking Doe Contracts and Assistance
36. 10 CFR Part 810—Assistance to foreign atomic Energy Activities
37. 10 CFR Part 820—Procedural Rules for DOE Nuclear Activities
38. 10 CFR Part 824—Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations
39. 10 CFR Part 830—Nuclear Safety Management
40. 10 CFR Part 835—Occupational Radiation Protection
41. 10 CFR Part 840—Extraordinary Nuclear Occurrences
42. 10 CFR Part 850—Chronic Beryllium Disease Prevention Program
43. 10 CFR Part 851—Worker Safety and Health Program
44. 10 CFR Part 860—Trespassing On Department of Energy Property
45. 10 CFR Part 861—Control of Traffic at Nevada Test Site
46. 10 CFR Part 862—Restrictions on Aircraft Landing and Air Delivery at Department of Energy Nuclear Sites
47. 10 CFR Part 871—Air Transportation of Plutonium
48. 10 CFR Part 950—Standby Support for Certain Nuclear Plant Delays
49. 10 CFR Part 960—General Guidelines for the Preliminary Screening of Potential Sites for A Nuclear Waste Repository
50. 10 CFR Part 961—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste
51. 10 CFR Part 962—Byproduct Material
52. 10 CFR Part 963—Yucca Mountain Site Suitability Guidelines

53. 10 CFR Part 1000—Transfer of Proceedings to the Secretary of Energy and the Federal Energy Regulatory Commission
54. 10 CFR Part 1002—Official Seal and Distinguishing Flag
55. 10 CFR Part 1003—Office of Hearings and Appeals Procedural Regulations
56. 10 CFR Part 1004—Freedom of Information
57. 10 CFR Part 1005—Intergovernmental Review of Department of Energy Programs and Activities
58. 10 CFR Part 1008—Records Maintained on Individuals (Privacy Act)
59. 10 CFR Part 1009—General Policy for Pricing and Charging for Materials and Services Sold by DOE
60. 10 CFR Part 1010—Conduct of Employees and former Employees
61. 10 CFR Part 1013—Program Fraud Civil Remedies and Procedures
62. 10 CFR Part 1014—Administrative Claims Under Federal Tort Claims Act
63. 10 CFR Part 1015—Collection of Claims Owed the United States
64. 10 CFR Part 1016—Safeguarding of Restricted Data
65. 10 CFR Part 1017—Identification and Protection of Unclassified Controlled Nuclear Information
66. 10 CFR Part 1021—National Environmental Policy Act Implementing Procedures
67. 10 CFR Part 1022—Compliance with Floodplain and Wetland Environmental Review Requirements
68. 10 CFR Part 1023—Contract Appeals
69. 10 CFR Part 1039—Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs
70. 10 CFR Part 1040—Nondiscrimination in Federally Assisted Programs or Activities
71. 10 CFR Part 1041—Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of Energy
72. 10 CFR Part 1042—Nondiscrimination On the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance
73. 10 CFR Part 1044—Security Requirements for Protected Disclosures Under Section 3164 of the National Defense Authorization Act for Fiscal Year 2000
74. 10 CFR Part 1045—Nuclear Classification and Declassification
75. 10 CFR Part 1046—Physical Protection of Security Interests
76. 10 CFR Part 1047—Limited Arrest Authority and Use of force by Protective Force Officers
77. 10 CFR Part 1048—Trespassing On Strategic Petroleum Reserve Facilities and other Property
78. 10 CFR Part 1049—Limited Arrest Authority and Use of force by Protective Force Officers of the Strategic Petroleum Reserve
79. 10 CFR Part 1050—Foreign Gifts and Decorations
80. 10 CFR Part 1060—Payment of Travel Expenses of Persons who are not Government Employees

Mr. TURNER. Please provide the committee, before December 15, a comprehensive list of all audits conducted by any DOE office, entity, or personnel on NNSA and/or any of its labs, plants, or facilities in FY11.

Mr. D'AGOSTINO. [The information referred to follows on the next page.]

Start Date	NNSA FY 2011 IG Audits
9/29/2011	Follow-up of DOE's Pollution Prevention Program
8/29/2011	Lawrence Livermore National Laboratory Cost Incurred for Fiscal Years 2009-2010
8/24/2011	Area G - Radiological Waste Operations at Los Alamos National Laboratory
8/12/2011	Y-12 Cost Incurred for Fiscal Year 2010
8/4/2011	MOX Facility Follow-Up
8/8/2011	Los Alamos National Laboratory Cost Incurred for Fiscal Year 2010
7/29/2011	GRTI Molybdenum-99 Program
7/13/2011	Sandia National Laboratories Cost Incurred for Fiscal Years 2009 and 2010
6/30/2011	Fixed Monthly Living Expense Payments (FMLE) at Livermore
6/13/2011	Follow-up Audit of the Stockpile Surveillance Program
5/10/2011	JASPER (Joint Actinide Shock Physics Experimental Research Facility)
5/4/2011	Department's Management of Surplus Nuclear Materials
3/18/2011	DOE's International Offices and Foreign Assignments
3/18/2011	The Department's Implementation of Homeland Security Presidential Directive 12
3/2/2011	Graded Security Protection Policy
2/9/2011	Inspection on Continuity of Operations and intelligence Readiness
2/8/2011	DOE's Energy Savings through Commissioning and advanced Metering of Facilities
2/3/2011	Evaluation of the Department of Energy's Unclassified Cyber Security Program – FY 2011

Start Date	NNSA FY 2011 IG Audits
2/2/2011	Audit of the Department of Energy's Fiscal Year 2011 Consolidated Financial Statements
1/3/2011	Contractor Assurance systems at NNSA Sites
12/21/2010	DOE's Protective Force Training Facilities
12/20/2010	Inspection of Property Accountability and Accounting Controls Under the Cooperative Agreement with the Incorporated County of Los Alamos
12/7/2010	IG NNSA's GTRI Contract Administration
10/8/2010	Audit of the Efforts by the Department to Ensure Energy-Efficient Management of its Data Centers
10/7/2010	Audit of the Department's Configuration Management of Non-Financial Systems
10/5/2010	Advanced Recovery and Integrated Extraction System (ARIES)
10/5/2010	Department's Management of Cloud Computing Services

Date	NNSA FY 2011 IT/Cyber Security Reviews
10/2010	Sandia National Laboratories, Albuquerque, NM
11/2010	Y-12 National Security Complex, Oak Ridge, TN
1/2011	Emergency Communications Network, Washington DC and Nellis AFB, NV
6/2011	Pantex Plant, Amarillo, TX
7/2011	NNSA Information Assurance Response Center, Las Vegas, NV
8/2011	Lawrence Livermore National Laboratory, Livermore, CA
10/7/2010	Audit of the Department's Configuration Management of Non-Financial Systems
10/5/2010	Advanced Recovery and Integrated Extraction System (ARIES)
10/5/2010	Department's Management of Cloud Computing Services

Mr. TURNER. Please provide the committee, before December 15, the number of NNSA personnel assigned to the site offices at each NNSA site (e.g. Los Alamos, Pantex, etc.). Also, the number of NNSA personnel at other NNSA facilities, such as headquarters, that are conducting oversight of the labs and plants. In both cases, how do these numbers compare to 5 years ago and 10 years ago?

Mr. D'AGOSTINO.

	Actual FY 2002	Actual FY 2003	Actual FY 2004	Actual FY 2005	Actual FY 2006	Actual FY 2007	Actual FY 2008	Actual FY 2009	Actual FY 2010	Actual FY 2011	Request FY 2012
Office of the Administrator											
Office of the Administrator	44	42	42	52	66	71	78	78	82	138	107
Defense Programs											
Headquarters	144	188	188	170	165	173	181	173	166	182	177
Livermore Site Office	-	83	88	92	90	95	96	93	96	96	93
Los Alamos Site Office	-	77	91	100	107	102	103	109	104	107	106
Sandia Site Office	-	63	86	86	87	83	82	83	82	82	82
Nevada Site Office	-	114	94	98	97	93	91	90	93	95	91
Pantex Site Office	-	74	72	83	84	83	77	77	79	79	80
Y-12 Site Office	70	73	72	78	81	83	82	81	78	78	81
Kansas City Site Office	-	52	50	49	47	44	43	39	37	42	41
Savannah River Site Office	37	24	22	21	24	27	33	36	31	30	32
Defense Nuclear Nonproliferation	172	206	221	235	241	229	219	212	244	252	264
Emergency Operations	53	42	83	47	77	80	89	89	95	98	102
Infrastructure and Environment	65	65	20	20	28	28	31	38	39	20	0
Management and Budget	85	83	83	79	91	88	84	96	114	121	105
Defense Nuclear Security	-	12	12	18	26	24	23	22	25	40	37
Future Leaders Program	-	-	-	15	40	53	54	57	57	57	57
Albuquerque Operations Office	783	-	-	-	-	-	-	0			0
Nevada Operations Office	236	-	-	-	-	-	-	0			0
Oakland Operations Office	247	-	-	-	-	-	-	0			0
NNSA Service Center	-	631	496	425	446	433	428	458	475	411	473
Subtotal, Office of the Administrator	1,936	1,829	1,720	1,668	1,797	1,789	1,794	1,831	1,897	1,928	1,928
Federal Oversight of Construction Projects											56
Total, Office of the Administrator											1,984

Mr. TURNER. Please provide the committee, before December 15, the number of personnel working in the DOE Office of Health, Safety, and Security.

Mr. D'AGOSTINO. The mission of the Office of Health, Safety and Security (HSS) is to maintain a safe and secure work environment for all Federal and contractor employees, ensure that the Department's operations preserve the health and safety of the surrounding communities, and protect national security assets entrusted to the Department. To accomplish these vital tasks, HSS requested and was authorized a Federal staff of 398 FTEs for FY 2011 and has requested a Federal staffing level of 376 for FY 2012.

Mr. TURNER. Please provide the committee a detailed description of NNSA's approach to managing, overseeing, and coordinating surveillance of the stockpile by the labs and plants, including the name and position of the individual within NNSA with responsibility for this mission. Please also provide the committee with NNSA's requirements for conducting surveillance and the program plan for fulfilling these requirements.

Mr. D'AGOSTINO. In 2011 a new surveillance governance model for management of the surveillance program was instituted in which we selected a Senior Technical Advisor for Surveillance (STAS) to oversee all areas of the program and report directly to the Assistant Deputy Administrator for Stockpile Management. The gov-

ernance model coordinates key surveillance activities to assure that each weapon system maintains a current technical basis to determine its respective requirements; all systems requirements are integrated into an executable plan; appropriate diagnostics are developed and deployed; and the surveillance plan is funded and supported by senior NNSA management.

Surveillance requirements are identified by Sandia, Los Alamos, and Lawrence Livermore National Laboratories and provided to the NNSA production agencies to perform the necessary inspections, testing, and capture of data. The primary goal of the Surveillance Program is to identify any design or manufacturing defects either in newly produced or in stockpiled weapons and weapon components, as well as, detect any issues related to deployment or aging of the weapons. Each weapon system has an integrated weapon evaluation plan that projects out 6 years.

Mr. TURNER. How does the B61 Life Extension Program (LEP), which would consolidate several different versions of the B61 into a single B61–12 version, link to our extended deterrent in Europe?

a. What are the implications, both to our extended deterrent and more broadly, of delay in the B61 LEP?

b. Why is it important to increase surety in B61 warheads during the LEP?

Mr. D'AGOSTINO. The B61–12 LEP plan submitted by NNSA has a central theme of consolidating multiple legacy versions of the B61 that are currently deployed in the U.S. and abroad. As a result, the B61–12 will provide a modernized extended deterrent in Europe. Our planned deployment schedule will ensure that no gap in extended deterrent capability will occur, and will ensure seamless replacement of legacy B61 systems with the modernized B61–12.

The implications of a delay in the B61–12 LEP have been studied by NNSA and DOD as part of our LEP alternatives analysis. NNSA has coordinated mitigation strategies with the Department of Defense for the contingency of a delayed B61 LEP. If the proposed LEP is significantly delayed, several critical and costly activities must be pursued to temporarily stabilize the capabilities of legacy deployed B61 systems. For the time period of the delay, more rigorous surveillance activities must be performed to ensure an adequate state of readiness is maintained for this aging legacy element of the stockpile.

The B61 bomb variants have some of the most advanced safety and use control features in the current stockpile. However, these features are aging and designed for Cold War threats. The life extension program provides the opportunity to improve weapon safety and security especially against new, emerging threats of the 21st century. The B61 LEP will incorporate improvements to the existing surety features without significant risk of schedule delays and will balance the B61 investments with those needed in other weapon LEPs. The design approach will facilitate future surety upgrades as threats to our nuclear deterrent evolve.

Mr. TURNER. How many nuclear warheads does Russia make each year? What is our estimate for how many it can make? How does this compare to actual U.S. production and our potential production capacity?

Mr. D'AGOSTINO. The NNSA is responsible for the warheads in the U.S. nuclear weapons program. Questions about a foreign nuclear weapon program should be answered by the Intelligence Community or the Department of Defense.

QUESTIONS SUBMITTED BY MS. SANCHEZ

Ms. SANCHEZ. General Kehler has stated recently that "We're not going to be able to go forward with weapon systems that cost what weapon systems cost today ... Case in point is [the] Long-Range Strike [bomber]. Case in point is the Trident [submarine] replacement.... The list goes on." In addition, Admiral Mullen before he retired as Chairman of the JCS said: "At some point in time, that triad becomes very, very expensive, you know, obviously, the smaller your nuclear arsenal is. And it's—so at some point in time, in the future, certainly I think a decision will have to be made in terms of whether we keep the triad or drop it down to a dyad."

Can the U.S. guarantee its security and that of its allies in a more fiscally sustainable manner by pursuing further bilateral reductions in nuclear forces with Russia and scaling back plans for new and excessively large strategic nuclear weapons systems and warhead production facilities?

Dr. MILLER. I believe that if properly structured, reductions below New START levels with Russia could reduce costs to the United States, while strengthening deterrence of potential regional adversaries, strategic stability vis-à-vis Russia and China, and assurance of our Allies and partners. At the same time, as noted in the Nuclear Posture Review, Russia's nuclear force will remain a significant factor in determining how much and how fast we are prepared to reduce U.S. forces.

Ms. SANCHEZ. Do you have any concerns about the provisions related to nuclear weapons employment and that could limit or delay nuclear weapons reductions, which were included in the House National Defense Authorization bill?

Dr. MILLER. Sections 1055 and 1056 of H.R. 1540 would impinge on the President's authority to implement the New START Treaty and establish U.S. nuclear weapons policy. Moreover, it would set onerous conditions on the Administration's ability to direct the retirement, dismantlement, or elimination of non-deployed nuclear weapons.

This legislation would dictate the pace of reductions under New START Treaty in a way that would bar DOD and DOE from exploring the best means to implement reductions, could preclude DOD from being logistically able to meet New START Treaty timelines, and would add disruptions and costs at a time when our country and the nuclear enterprise can ill afford them. Notably, it would set conditions on New START Treaty implementation and divert resources from stockpile sustainment in ways that tax the very programs that the House Appropriations Committee has just cut drastically.

Further, Section 1056 raises constitutional concerns, as it appears to encroach on the President's authority as Commander in Chief to set nuclear employment policy.

Ms. SANCHEZ. In testimony before the Senate Foreign Relations Committee in June 2010, former National Security Advisor Brent Scowcroft stated: "Some things [nuclear weapons] need to be modernized in order to be safe, secure and reliable. Other things don't need to be. And I would not put modernization itself as a key to what we need to—we need to do."

Do you agree with this statement?

Dr. MILLER. I agree that nuclear weapons need to be modernized (e.g., through warhead life extension programs) in order to be safe, secure, and reliable. This modernization does not require the development of new nuclear weapons.

Ms. SANCHEZ. What are the projected costs of, and associated decision points, related to, development and production of a new nuclear bomber, a new Air-Launched Cruise Missile, and a new ICBM?

Dr. MILLER. The President's Budget for Fiscal Year (FY) 2012 contains $3.7 billion across FY 12–16 for a new, long-range penetrating bomber. The program would use a streamlined management and acquisition approach to balance capability with affordability by utilizing existing and mature technologies to the maximum extent. Additionally, the Air Force would limit requirements based on affordability using a realistic cost target to inform capability and cost trade-offs. The program plans to hold unit costs to the established targets to ensure sufficient production and a sustainable inventory over the long term for approximately 80 to 100 aircraft. The Air Force estimates an initial capability in the mid-2020s.

The current funding for a new Air-Launched Cruise Missile, also known as Long-Range Standoff, is $884.3 million across FY 2012–16. The cost of this missile will be further refined when a materiel solution is selected as a product of the ongoing Analysis of Alternatives that is scheduled for completion in FY 2013.

The Air Force will begin a Ground-Based Strategic Deterrence Capability-Based Analysis of Alternatives in FY 2013. This assessment supports development of an Initial Capabilities Document, and will establish a baseline of requirements for a future Inter Continental Ballistic Missile (ICBM) replacement program.

Ms. SANCHEZ. Would the ALCM require a new warhead?

Dr. MILLER. No. The Administration committed in the Nuclear Posture Review to sustaining a safe, secure, and effective nuclear arsenal without developing new nuclear warheads. However, a new ALCM would require a decision regarding how to conduct a life extension program for the ALCM warhead.

Ms. SANCHEZ. Under the data provided by the New START verification regime, Russia's nuclear forces were actually at one point under the New START limits that must be met by 2018, but now have risen slightly. Russia is deploying one new missile, the RS–24—a missile I would note that U.S. inspectors got to examine up close solely because New START came into force—and I believe Russia is also proposing a new 10-warhead missile.

What can we do to discourage Russia from developing and fielding new weapons?

Dr. MILLER. Under the New START Treaty, each country is permitted to shape and modernize its forces to meet their respective strategic requirements. There is little we can do to discourage Russia from developing and fielding new nuclear weapons as long as they remain within the limits of the Treaty. Russia continues to modernize its force to replace aging systems and to meet what it views as its strategic needs. The United States is also modernizing nuclear systems as allowed under the New START Treaty.

Ms. SANCHEZ. In the context of New START negotiations, how many deployed strategic warheads did the U.S. military conclude that it needed to fulfill the exist-

ing targeting requirements established by the Bush administration in their nuclear policies.

And how many deployed strategic warheads are needed following the analysis of the 90-day NPR implementation review based on the different options that will be presented to the President?

Dr. MILLER. I would be glad to brief the committee leadership with a classified briefing to answer the first question. I cannot answer the second question because at this time no options have been finalized for presentation to the President.

[OSD provided briefing to Ranking Member Sanchez on the number of deployed strategic warheads as part of a classified brief by Under Secretary Miller and General Kehler on July 10, 2012.]

Ms. SANCHEZ. The Nuclear Posture Review emphasizes the importance of reducing the role of nuclear weapons in U.S. security policy, an approach that makes sense in a world where such weapons are the only existential threat to the United States.

Can you give us some examples of how the United States can further reduce the role of nuclear weapons?

Can you tell us how and what further reductions in the size of the U.S. stockpile would be possible based on current and foreseeable requirements, and what assumptions about nuclear weapons technology and geopolitics in the next decades factor into these requirements?

Dr. MILLER. The United States continues to explore options to reduce the role of nuclear weapons. In a regional context, continued development of conventional capabilities and missile defenses can strengthen non-nuclear deterrence and so help to reduce reliance on nuclear weapons. In addition, implementation of the Stockpile Stewardship Program and investments in our nuclear infrastructure will allow the United States over time to shift away from retaining large numbers of non-deployed warheads as a hedge against technical or geopolitical surprise, allowing major reductions in the nuclear stockpile. To date, no final decisions have been made with respect to future force structure or the modernization plans for nuclear delivery systems. The Department of Defense is close to concluding the NPR Implementation Study, which will inform future decisions.

Ms. SANCHEZ. What assumptions underlie and inform the options presented to the President?

Dr. MILLER. The key assumption that informs the options being developed is that the goals of the Nuclear Posture Review (NPR) remain valid: to prevent nuclear proliferation and nuclear terrorism; to reduce the role of U.S. nuclear weapons in U.S. national security strategy; to maintain strategic stability and deterrence at reduced nuclear force levels; to strengthen regional deterrence and reassure our Allies and partners of the credibility of the U.S. nuclear umbrella and other security commitments; and to sustain a safe, secure, and effective nuclear deterrent.

Ms. SANCHEZ. What is the cost of forward-deploying tactical nuclear weapons in Europe? Please provide detailed cost break-down (in classified form if necessary).

How are these costs shared between the U.S. and host countries?

Dr. MILLER. DOD estimates the annual operating costs for the United States to support forward deployed nuclear weapons in Europe is approximately $100 million per year on average, as shown in the below table.

Fiscal Year (FY)($M)	FY12	FY13	FY14	FY15	FY16	FYDP
Officer	7.2	7.3	7.5	7.7	7.9	37.6
Enlisted	66.7	68.9	71.1	73.4	76.3	356.4
Operations & Maintenance	2.3	2.4	2.5	2.5	2.5	12.2
Security Investments	0.0	23.0	44.0	0.0	0.0	67.0
Weapon Storage Systems	2.8	2.4	2.4	2.3	2.4	12.3
Transportation Costs	2.9	2.9	2.9	2.9	2.9	14.5
Total	81.9	106.9	130.4	88.8	92.0	500.0

Beyond the above costs, Host Nations fund all facility and installation costs at the Munitions Support Squadrons locations. In addition to facility and installation costs, NATO funded $14.7M in FY 2011 to develop and procure a replacement weapon maintenance vehicle for all weapon sites and $63.4M in FY 2011–2012 in security upgrades for munitions storage sites.

Ms. SANCHEZ. General Kehler, you've stated recently that "We're not going to be able to go forward with weapon systems that cost what weapon systems cost today . . . Case in point is [the] Long-Range Strike [bomber]. Case in point is the Trident [submarine] replacement . . . . The list goes on." In addition, Admiral Mullen before

he retired as Chairman of the JCS said: "At some point in time, that triad becomes very, very expensive, you know, obviously, the smaller your nuclear arsenal is. And it's—so at some point in time, in the future, certainly I think a decision will have to be made in terms of whether we keep the triad or drop it down to a dyad."

Can the U.S. guarantee its security and that of its allies in a more fiscally sustainable manner by pursuing further bilateral reductions in nuclear forces with Russia and scaling back plans for new and excessively large strategic nuclear weapons systems and warhead production facilities?

General KEHLER. U.S. policy is to maintain strategic deterrence, strategic stability, and assure our allies with the lowest possible number of nuclear weapons. The President has certified to Congress he will seek negotiations with the Russian Federation for an agreement on non-strategic nuclear weapons stockpiles of Russia and the U.S. and to reduce tactical nuclear weapons in a verifiable manner. I believe our triad of strategic nuclear weapons systems and our nuclear weapons infrastructure need to be sustained and modernized and there are opportunities to do so in a cost effective and affordable manner. New START provides the necessary flexibility to examine alternatives while meeting our national security policy objectives.

Ms. SANCHEZ. Do you have any concerns about the provisions related to nuclear weapons employment and that could limit or delay nuclear weapons reductions, which were included in the House National Defense Authorization bill?

General KEHLER. As the combatant commander responsible for managing forces and implementing the New START, I am concerned reporting requirements and waiting periods have the potential to impact New START implementation. Additionally, I am concerned that some provisions could divert resources from critical stockpile sustainment efforts and delay prudent reductions to the non-deployed stockpile. In my view, existing consultative processes (e.g., 1251, Stockpile Stewardship and Management Plan) ensure we work jointly with Congress to implement New START and manage the stockpile.

Ms. SANCHEZ. In testimony before the Senate Foreign Relations Committee in June 2010, former National Security Advisor Brent Scowcroft stated: "Some things [nuclear weapons] need to be modernized in order to be safe, secure and reliable. Other things don't need to be. And I would not put modernization itself as a key to what we need to—we need to do."

Do you agree with this statement?

General KEHLER. We need to sustain a safe, secure and effective nuclear deterrent. We have reached a critical point where investment is required to sustain the weapons, perform life extensions for substantial pieces of our deterrent, and modernize the complex. The current plans in the 1251 Report detail our best estimates for actions needed to sustain the stockpile while meeting our deterrence requirements.

Ms. SANCHEZ. What are the projected costs of, and associated decision points, related to, development and production of a new nuclear bomber, a new Air-Launched Cruise Missile, and a new ICBM?

General KEHLER. The 1251 Report contains the most current projected costs for the new bomber, ALCM follow-on, and Minuteman follow-on. These estimates will be refined as the Air Force conducts the requirements and acquisition processes for each platform and future 1251 Reports will be updated accordingly. The current Air Force plan projects a technology development decision for the ALCM follow-on in FY14. Specific plans for the new bomber are in development. The Minuteman follow-on is dependent on the Ground Based Strategic Deterrent Analysis of Alternatives which is scheduled to begin in FY13.

Ms. SANCHEZ. Would the ALCM require a new warhead?

General KEHLER. The current ALCM warhead is sustainable with investments by the Air Force and NNSA until 2030. The next-generation cruise missile will require a life-extended warhead.

Ms. SANCHEZ. Under the data provided by the New START verification regime, Russia's nuclear forces were actually at one point under the New START limits that must be met by 2018, but now have risen slightly. Russia is deploying one new missile, the RS–24—a missile I would note that U.S. inspectors got to examine up close solely because New START came into force—and I believe Russia is also proposing a new 10-warhead missile.

What can we do to discourage Russia from developing and fielding new weapons?

General KEHLER. The New START Treaty was explicitly designed to permit both countries to shape and modernize their forces to match their requirements as they see fit within the treaty's limits. In contrast to the United States, Russia is today conducting a modernization of their force in part to serve as replacements for existing systems that have exceeded or are ending their service lives and more generally

to meet their perceived geopolitical needs. To some degree, the United States will be conducting similar modernization efforts in the later half of this decade and the next. As discussed in the NPR, I believe the way forward is to place "importance on Russia joining us as we move to lower levels."

Ms. SANCHEZ. In the context of New START negotiations, how many deployed strategic warheads did the U.S. military conclude that it needed to fulfill the existing targeting requirements established by the Bush administration in their nuclear policies.

And how many deployed strategic warheads are needed following the analysis of the 90-day NPR implementation review based on the different options that will be presented to the President?

General KEHLER. As part of the Nuclear Posture Review the military conducted extensive studies to inform the U.S. negotiation position for the New Start Treaty. The resultant treaty level reflects the military's identified requirements. The follow-on analysis directed in the NPR (aka "90 Day NPR implementation review") is ongoing and thus it would be premature to describe the content of these discussions.

Ms. SANCHEZ. The Nuclear Posture Review emphasizes the importance of reducing the role of nuclear weapons in U.S. security policy, an approach that makes sense in a world where such weapons are the only existential threat to the United States.

Can you give us some examples of how the United States can further reduce the role of nuclear weapons?

Can you tell us how and what further reductions in the size of the U.S. stockpile would be possible based on current and foreseeable requirements, and what assumptions about nuclear weapons technology and geopolitics in the next decades factor into these requirements?

General KEHLER. The ongoing follow-on analysis directed in the NPR is examining these issues in detail and thus it would be premature to describe the content of these discussions.

Ms. SANCHEZ. Do you have any concerns about the provisions related to nuclear weapons employment and that could limit or delay nuclear weapons reductions, which were included in the House National Defense Authorization bill?

Secretary TAUSCHER. The May 24, 2011, Statement of Administration Policy on H.R. 1540 made clear that the Administration had serious constitutional concerns with sections 1055, 1056, and 1230. Sections 1055 and 1056 would impinge on the President's authority to implement the New START Treaty and to set U.S. nuclear weapons policy. Similarly, section 1230 would limit the president's ability to address tactical nuclear weapons, a step called for in the Senate's Resolution of Ratification of the New START Treaty.

Ms. SANCHEZ. Under the data provided by the New START verification regime, Russia's nuclear forces were actually at one point under the New START limits that must be met by 2018, but now have risen slightly. Russia is deploying one new missile, the RS–24—a missile I would note that U.S. inspectors got to examine up close solely because New START came into force—and I believe Russia is also proposing a new 10-warhead missile.

What can we do to discourage Russia from developing and fielding new weapons?

Secretary TAUSCHER. Under New START, each Party retains the right to determine for itself the structure and composition of its strategic forces within the Treaty's overall limits. This provides both Parties to the Treaty with the flexibility to deploy, maintain, and modernize its strategic nuclear forces in the manner that best protects its national security interests. However, modernization must occur within the central limits of the Treaty. The Treaty limitations on U.S. and Russian forces, combined with mechanisms to verify compliance, will provide predictability, transparency, and stability in the U.S.-Russian strategic relationship at lower nuclear force levels.

Ms. SANCHEZ. Are we taking the necessary steps to build verification requirements into the CMRR and UPF facility designs to preserve flexibility for future arms control agreements?

Secretary TAUSCHER. While designs for CMRR (Chemistry and Metallurgy Research Replacement) and UPF (Uranium Processing Facility) are flexible, specific verification requirements of future agreements are unknown. The UPF facility design has been evaluated and determined to have an appropriate level of transparency within the ongoing design to accommodate potential activities that could be related to future treaty obligations. UPF can accommodate access, and appropriate areas for monitoring and measuring of fissile material for inspection teams. The CMRR Nuclear Facility is not considered a production facility and is not anticipated to be subject to routine inspections.

Ms. SANCHEZ. Could you further detail the relationship between modernization and reductions?

Does delay in modernization necessarily prevent any reductions? Could the U.S. pursue negotiations for further reductions before CMRR and UPF are operational? Could the U.S. make unilateral reductions, as was done under Presidents George H. W. Bush and George W. Bush, if they can be done without jeopardizing deterrence requirements? Why or why not?

Secretary TAUSCHER. Appropriate investments to improve the capability and responsiveness in our nuclear infrastructure ensure the United States will retain a safe, secure, and effective nuclear arsenal so long as nuclear weapons exist and will help to enable further reductions.

As stated in the Nuclear Posture Review, the President has directed a review of post-New START arms control objectives to consider further reductions in nuclear weapons.

Ms. SANCHEZ. What is the cost of forward-deploying tactical nuclear weapons in Europe? Please provide detailed cost break-down (in classified form if necessary).

How are these costs shared between the U.S. and host countries?

Secretary TAUSCHER. We refer you to the answer below provided by the Department of Defense which outlines the U.S. support for forward based nuclear weapons in Europe as well as the contribution by host countries and the NATO Alliance. The current amount funded by the United States to support forward based nuclear weapons in Europe is:

Fiscal Year (FY)($M)	FY12	FY13	FY14	FY15	FY16	FYDP
Officer	7.2	7.3	7.5	7.7	7.9	37.6
Enlisted	66.7	68.9	71.1	73.4	76.3	356.4
Operations & Maintenance	2.3	2.4	2.5	2.5	2.5	12.2
Security Investments	0.0	23.0	44.0	0.0	0.0	67.0
Weapon Storage Systems	2.8	2.4	2.4	2.3	2.4	12.3
Transportation Costs	2.9	2.9	2.9	2.9	2.9	14.5
Total	81.9	106.9	130.4	88.8	92.0	500.0

The Host Nations currently fund all facility and installation costs at the Munitions Support Squadrons (MUNSS) locations. In addition to facility and installation costs, NATO funded $14.7M (FY11) to develop and procure a replacement weapon maintenance vehicle for all weapon sites and $63.4M (FY11/12) in security upgrades for the MUNSS storage sites.

Ms. SANCHEZ. Do you have any concerns about the provisions related to nuclear weapons employment and that could limit or delay nuclear weapons reductions, which were included in the House National Defense Authorization bill?

Mr. D'AGOSTINO. Section 1055 of H.R. 1540, the House National Defense Authorization Bill for FY 2012, would impose onerous conditions on NNSA's ability to retire, dismantle, or eliminate non-deployed nuclear weapons. The effect of this section would be to preclude dismantlement of weapons in excess of military needs. Additionally, it would increase stewardship and management costs and divert key resources from our critical stockpile sustainment efforts and delay completion of programs necessary to support the long-term safety, security, and reliability of our nuclear deterrent.

Ms. SANCHEZ. In testimony before the Senate Foreign Relations Committee in June 2010, former National Security Advisor Brent Scowcroft stated: "Some things [nuclear weapons] need to be modernized in order to be safe, secure and reliable. Other things don't need to be. And I would not put modernization itself as a key to what we need to—we need to do."

Do you agree with this statement?

Mr. D'AGOSTINO. Yes, I agree with Mr. Scowcroft's statement. As Mr. Scowcroft stated, NNSA is not pursuing modernization of nuclear weapons or the nuclear security enterprise for the sake of modernization; rather, NNSA is extending the life of systems where necessary, on a case-by-case basis, to ensure the continued safety, security and reliability of the U.S. nuclear deterrent, including assuring the continued capability of the entire nuclear security enterprise.

[Text from the June hearing for context: Mr. SCOWCROFT. Yes, I am. I am comfortable. I did not use the term "modernization" in my comments. I said safe, reliable, assurance. Modernization for the sake of modernization, in light of the comments that Senator Lugar has made about the overall defense budget, is a separate question. Some things need to be modernized in order to be safe, secure, and reliable. Other things do not need to be. And I would not put modernization itself as

a key to what we need to do. We need to be assured that the system will work the way we want it to work.]

Ms. SANCHEZ. Would the ALCM require a new warhead?

Mr. D'AGOSTINO. The Air Force is assessing options to replace the Air Launched Cruise Missile (ALCM) with another long-range standoff (LRSO) capability in the next decade. NNSA is prepared to install new neutron generators to extend the life of the W80 deployed on the ALCM. NNSA will continue to support the Air Force's ongoing Analysis of Alternatives (AoA) to establish requirements for the LSRO. Until the AoA is complete, the warhead options will not be determined.

Ms. SANCHEZ. Under the data provided by the New START verification regime, Russia's nuclear forces were actually at one point under the New START limits that must be met by 2018, but now have risen slightly. Russia is deploying one new missile, the RS–24—a missile I would note that U.S. inspectors got to examine up close solely because New START came into force—and I believe Russia is also proposing a new 10-warhead missile.

What can we do to discourage Russia from developing and fielding new weapons?

Mr. D'AGOSTINO. Russian determinations regarding the development and fielding of weapons will be based on Russian national security considerations, just as the United States will make determinations based on U.S. national security considerations. Looking to the future, the President has made clear his commitment to a step-by-step process for further reducing and eliminating nuclear weapons, while recognizing that this process will take time and must be based on international security conditions that will enable such reductions to occur in a secure, predictable, and stable manner. In this regard, the United States must continue to work with the international community, including Russia, to improve the regional and international security considerations affecting national security decisionmaking.

Ms. SANCHEZ. What assumptions underlie, and what requirements drive, the 50–80 pits and secondaries production capacity for CMRR and UPF? What is the cost comparison for facilities that could produce a lower maximum number of pits/secondaries?

Mr. D'AGOSTINO. NNSA infrastructure is capability-based and will be responsive to changing world demands and have the inherent capacity for uranium processing, plutonium analytical chemistry and material characterization support, and storage to support production of the required pits and canned subassemblies (CSA) per year while sustaining the remaining stockpile. Stockpile life extension plans developed jointly between the Department of Defense and NNSA provide the drivers for the requirements for pits and secondaries production capacity. During the NNSA Critical Decision process that resulted in approval of capability-based designs for both facilities, multiple alternatives were considered for meeting mission needs. Both project teams are currently working to achieve 90 percent design maturity in FY 2012. NNSA will conduct independent cost reviews before setting the performance baselines for cost and schedule in 2013.

Ms. SANCHEZ. What are the projected operation and management costs of CMRR and UPF?

Mr. D'AGOSTINO. *For UPF:* The projected total 50 year operational period cost of operations and maintenance and the average annual costs for the Uranium Processing Facility expressed in 2011 dollars are:

	Total Cost Over 50 Years	Average Annual Cost Over 50 Years
Operations	$4,693,000K	$93,800K
Maintenance	$1,761,000K	$34,900K

For CMRR: The projected total 50 year operational period cost of operations and maintenance and the average annual costs for the Chemistry and Metallurgy Research Facility Replacement including the radiological laboratory/utility/office building expressed in 2011 dollars are:

	Total Cost Over 50 Years	Average Annual Cost Over 50 Years
Operations	$4,500,000K	$90,000K
Maintenance	$1,800,000K	$35,000K

Ms. SANCHEZ. What are the costs of decontamination and decommissioning of the CMRR and UPF, and are these costs included in the cost estimates for these facilities? Why/why not?

Mr. D'AGOSTINO. Since CMRR and UPF are planned to operate for 50 years, the future costs of decontamination and decommissioning (D&D) of CMRR and UPF have not been determined.

As reflected in the Construction Project Data Sheet for CMRR in the President's FY 2012 Congressional Budget request, the initial pre-conceptual cost estimate range for D&D of the existing CMR facility is approximately $200M–$350M in non-escalated FY 2004 dollars.

As reflected in the Construction Project Data Sheet for UPF in the President's FY 2012 Congressional Budget request, the D&D of Building 9212 is included as part of the Integrated Facility Disposition Project proposed by the Office of Environmental Management to dispose of legacy facilities at Y–12 and Oak Ridge National Laboratory. Buildings 9215, 9998, and 9204–2E are being evaluated for further consolidation of non-Special Nuclear Material manufacturing functions. Since these buildings will not be immediately excess to program needs when UPF becomes operational, NNSA has no near term D&D plans for these facilities.

Ms. SANCHEZ. Are we taking the necessary steps to build verification requirements into the CMRR and UPF facility designs to preserve flexibility for future arms control agreements?

Mr. D'AGOSTINO. While designs for CMRR and UPF are flexible, specific verification requirements of future agreements are unknown. The UPF facility design has been evaluated and determined to have an appropriate level of transparency within the ongoing design to accommodate expected activities related to our treaty obligations. UPF can accommodate access, and appropriate areas for monitoring and measuring of fissile material for inspection teams. The CMRR Nuclear Facility is not considered a production facility and is not anticipated to be subject to routine inspections.

QUESTIONS SUBMITTED BY MR. FRANKS

Mr. FRANKS. Under Secretary Tauscher, during the November 2nd hearing you mentioned the EPAA is based on the SM–3 interceptor, implying the EPAA is comprised of proven systems; as you and I know, Phases II through IV of the EPAA will use new missiles and are experiencing technical difficulties. Indeed, the SM–3 Block IIB missile, slotted for phase IV of the EPAA, was entirely zeroed out by the SAC–D due its technical challenges and to devote more money to the SM–3 IB and IIA since they are also having challenges. It is also perplexing to assert the EPAA will be less expensive than the previous missile defense plan in Europe. The Missile Defense Agency currently does not have an estimate as to how much the EPAA will ultimately cost the U.S.; moreover, if the EPAA fails to deploy an effective SM–3 Block IIB, or GBIs as a hedge in the event Iran succeeds in developing an effective ICBM, the entire plan will fall woefully short of what the original plan was primarily supposed to do—provide added protection of the U.S. homeland. If the EPAA isn't even going to provide the same coverage of the U.S. as the original plan, than it makes no sense to compare their costs. In light of the these facts, please provide specific evidence supporting your statement that President Obama's approach to missile defense uses "proven systems at a lower cost than the previous proposal." I have seen no evidence to support your statement, which causes concern for the viability of the entire EPAA.

Secretary TAUSCHER. The EPAA includes a number of elements such as the SM–3 interceptor, the Aegis SPY–1 radar, and the AN/TPY–2 radar. The current version of the SM–3, the SM–3 Block IA, is deployed with the fleet today. The Aegis SPY–1 radar has been deployed on U.S. warships for over 30 years, and AN/TPY–2 radars have been deployed and operated in Japan and Israel for a number of years.

One element of the basis for the statement is that the Standard Missile (SM)–3, at around $10 million per interceptor, is much cheaper than a GBI, which costs approximately $60 to $70 million per interceptor. This means that we can deploy many more SM–3 interceptors than GBIs at the same cost. Since Iran already possesses hundreds of short- and medium-range ballistic missiles, this additional defensive capability is critical. In addition, the EPAA relies on capabilities that are mobile and relocatable, so additional capabilities can "surge" into the region in a crisis.

It is important to note that the EPAA is not an acquisition program but a policy framework for delivering capabilities of which the principal attribute is flexibility. By design, it can adapt to changes in threats and available technologies.

QUESTIONS SUBMITTED BY MR. LAMBORN

Mr. LAMBORN. Dr. Miller, in response to a question during this subcommittee's March 31, 2011 hearing on the budget for missile defense programs, your deputy, Dr. Brad Roberts stated, "The Administration is considering additional steps to strengthen the U.S. hedge posture ... we are evaluating the deployment timelines associated with fielding additional capabilities ... we have committed to brief the Committee on the results of this work ... once it is complete." And, you Dr. Miller, during this subcommittee's March 2 hearing, stated "the Department is in the process of finalizing and refining its hedge strategy, and we will be pleased to brief this subcommittee on the results in a classified setting when it is complete." Dr. Miller, here we are eight months later and the Department has not released its hedging strategy. When can we expect to see it?

Dr. MILLER. The analysis conducted for the hedge strategy is informing the budget decisions under consideration as part of the development of the Department's fiscal year 2013 budget request. The Department will ensure that Congress is briefed on the results of the hedge strategy in early 2013.

Mr. LAMBORN. Do you agree with Secretary Gates who said at the Shangri-La Dialogue in Singapore in June, "With the continued development of long-range missiles and potentially a road-mobile intercontinental ballistic missile and their continued development of nuclear weapons, North Korea is in the process of becoming a direct threat to the United States." And two weeks later he said, "North Korea now constitutes a direct threat to the United States. The president told [China's] President Hu that last year. They are developing a road-mobile ICBM. I never would have dreamed they would go to a road-mobile before testing a static ICBM. It's a huge problem. As we've found out in a lot of places, finding mobile missiles is very tough." Do you concur with Secretary Gates' statements? Was the question of a North Korean road-mobile missile factored in to the decision in 2009 to abandon the Third Site and the deployment of 44 ground based interceptors at the missile fields at Fort Greely and Vandenberg Air Force Base? If North Korea begins fielding an array of road mobile ICBMs, and if they proliferate this technology to Iran and other countries as in the past, what does such activity do to current judgments about the adequacy of the current inventory of GBIs?

Dr. MILLER. I agree with Secretary Gates' assessment that North Korea constitutes a direct threat to the United States, as it does to our South Korean and Japanese allies. North Korea's nuclear ambitions and continued development of long-range missiles remain a primary focus of the development and deployment of the Ballistic Missile Defense System (BMDS). The capabilities developed and deployed as part of the integrated BMDS protect the United States from the potential emergence of an ICBM threat from Iran or North Korea. To maintain this advantageous position, the Administration is taking steps to improve the protection of the homeland from the potential ICBM threat posed by Iran and North Korea. These steps include the continued procurement of ground-based interceptors (GBIs), the deployment of additional sensors, and upgrades to the Command, Control, Battle Management, and Communications system. Improvements to the Ground-based Midcourse Defense (GMD) system, in particular, will better protect the United States against future ICBM threats, whether from Iran, North Korea, or other regional actors.

In the future, if projections regarding Iran or North Korea change significantly, then the United States should reassess its baseline program and consider implementing some elements of our hedge posture.

Mr. LAMBORN. This summer, when asked about the consequence of cuts to NNSA's modernization program, Secretary Gates said: "This modernization program was very carefully worked out between ourselves and the ... Department of Energy. And, frankly, where we came out on that also, I think, played a fairly significant role in the willingness of the Senate to ratify the New START agreement. So the risks are to our own program in terms of being able to extend the life of our weapon systems ... this modernization project is, in my view, both from a security and a political standpoint, really important." Do you agree with Secretary Gates that the modernization project is very important both from a national security standpoint and from a perspective of sustaining support for the New START Treaty? What are the consequences of not funding the "very carefully worked out" plan for NNSA modernization?

Dr. MILLER. I agree with Secretary Gates that NNSA's modernization is very important to U.S. national security. The nuclear security enterprise remains, today and for the foreseeable future, the foundation of the U.S. deterrence strategy and defense posture. The Administration is committed to making the investments nec-

essary to recapitalize the U.S. nuclear complex and to ensure we have the highly skilled personnel needed to maintain our nuclear capabilities.

With the passing of the Budget Control Act (BCA), we now face new fiscal realities. These fiscal realities do not weaken our commitment to the safety, security, and effectiveness of the nuclear deterrent, but they must inform our path forward. The Administration is working to develop an FY13 budget request for NNSA that reflects these fiscal realities, but funds the core elements of the nuclear complex and meets military requirements.

Without adequate funding for NNSA, the nuclear weapons life extension programs, nuclear infrastructure, and the retention of the people on which we depend to maintain a safe, secure, and effective nuclear arsenal would be at risk. Congressional participation in this process and commitment to continuing investments in these programs and capabilities is critical to the future health of our nuclear deterrent.

Mr. LAMBORN. The 2010 Nuclear Posture Review says that, "by modernizing our aging nuclear facilities and investing in human capital, we can substantially reduce the number of nuclear weapons we retain as a hedge against technical or geopolitical surprise." It goes on to say that these modernization "investments are essential to facilitating reductions while sustaining deterrence under New START and beyond." If we do not carry out the modernization program, what is your military opinion of the risks associated with nuclear stockpile reductions?

General KEHLER. Modernization and investment in our aging nuclear facilities and human capital are important to the sustainment of our nuclear weapons, the dismantlement of retired weapons and other non-proliferation activities. There are increased risks if the modernization program is not executed and it is an important consideration in reducing the stockpile. I believe successful life extension programs are critical to strategic deterrence.

Mr. LAMBORN. This summer, when asked about the consequence of cuts to NNSA's modernization program, Secretary Gates said: "This modernization program was very carefully worked out between ourselves and the . . . Department of Energy. And, frankly, where we came out on that also, I think, played a fairly significant role in the willingness of the Senate to ratify the New START agreement. So the risks are to our own program in terms of being able to extend the life of our weapon systems . . . this modernization project is, in my view, both from a security and a political standpoint, really important." Do you agree with Secretary Gates that the modernization project is very important both from a national security standpoint and from a perspective of sustaining support for the New START Treaty? What are the consequences of not funding the "very carefully worked out" plan for NNSA modernization?

General KEHLER. I agree the nation must recapitalize its nuclear capabilities as all of our nuclear weapon systems and facilities are "aged" and require investment in the upcoming decades. The fiscal environment demands that we prioritize and synchronize the various platform, weapon and infrastructure modernization activities. Inadequate funding undermines our ability to provide a credible deterrent force to assure allies and respond appropriately, as directed by the President, if deterrence fails.

Mr. LAMBORN. This summer, when asked about the consequence of cuts to NNSA's modernization program, Secretary Gates said: "This modernization program was very carefully worked out between ourselves and the . . . Department of Energy. And, frankly, where we came out on that also, I think, played a fairly significant role in the willingness of the Senate to ratify the New START agreement. So the risks are to our own program in terms of being able to extend the life of our weapon systems . . . this modernization project is, in my view, both from a security and a political standpoint, really important." Do you agree with Secretary Gates that the modernization project is very important both from a national security standpoint and from a perspective of sustaining support for the New START Treaty? What are the consequences of not funding the "very carefully worked out" plan for NNSA modernization?

Secretary TAUSCHER. Yes. A credible and affordable modernization plan is necessary to sustain the nuclear infrastructure and support our nation's deterrent. NNSA will continue to update and improve the exact details of these modernization plans as it completes the designs and analyzes the infrastructure needed to support the stockpile. The programs and capabilities of our long-term modernization plans for the nuclear infrastructure remain important both from a national security standpoint and from a perspective of sustaining support for the New START Treaty.

Mr. LAMBORN. This summer, when asked about the consequence of cuts to NNSA's modernization program, Secretary Gates said: "This modernization program was very carefully worked out between ourselves and the . . . Department of Energy.

And, frankly, where we came out on that also, I think, played a fairly significant role in the willingness of the Senate to ratify the New START agreement. So the risks are to our own program in terms of being able to extend the life of our weapon systems . . . this modernization project is, in my view, both from a security and a political standpoint, really important." Do you agree with Secretary Gates that the modernization project is very important both from a national security standpoint and from a perspective of sustaining support for the New START Treaty? What are the consequences of not funding the "very carefully worked out" plan for NNSA modernization?

Mr. D'AGOSTINO. We agree that modernization is important and we urge the Congress to provide funding. The consequence for not funding the NNSA modernization plan is increased risk to the long-term maintenance of the U.S. stockpile and deterrence in general. The plan for modernization of the complex was carefully crafted through concerted interaction between the Departments of Energy and Defense. It was based on national strategic planning outlined in the April 2010 Nuclear Posture Review (NPR). This stockpile planning has been carefully formulated in the Stockpile Stewardship and Management Plan (SSMP) as a flow of complex activities over the next two decades. In some cases, decreases in funding would risk cessation or reduction of key activities (such as certain complex experiments and nuclear component manufacturing). Additional analysis will be undertaken, often in consultation with the Department of Defense, to minimize or eliminate such risks.

The New START Treaty is an important part of our security strategy and provides transparency and stability between the world's two major nuclear powers and will remain in our interest as long as we face nuclear challenges.

QUESTIONS SUBMITTED BY MR. BROOKS

Mr. BROOKS. Dr. Miller, as you know, this committee has been concerned about what a U.S.-Russia missile defense agreement negotiated by the Obama Administration might look like. Specifically, the provision I authored in this year's national defense authorization act would prohibit the exchange of sensitive missile defense sensor data and technology, such as our hit-to-kill technology. I note that the Administration expressed concern about this provision but it did not rise to the level of a veto threat. Several weeks ago, the Russian newspaper Kommersant published a report that a heretofore secret agreement tabled by Ms. Tauscher—I say secret because nothing about this "agreement" was briefed to Congress—with her Russian counterpart that President Obama actually had to reject. Surely, as a former congressional staffer, Dr. Miller, you understand that the Congress has a vital oversight function. In the absence of transparency by the Administration, the Congress has no choice but to resort to legislative provisions such as the amendment I offered. Would you please provide us get a copy of that draft agreement? It appears that now it is even circulating in the Russian press.

Dr. MILLER. The Administration is committed to keeping Congress informed of its missile defense efforts. The Administration is currently pursuing a political framework with the Russian Federation that could open the way for practical cooperation with Russia on missile defense. There are a variety of ways to establish such a political framework; no agreement has been reached on the content or format of any such framework to date. Any finalized statement will be shared with Congress. The Administration has been clear that it will not agree to any constraints or limitations on U.S. and NATO missile defense systems. As such, any political framework we reach with the Russian Federation would not be a legally binding agreement. I have passed your specific request to the Department of State.

Mr. BROOKS. Ms. Tauscher, as you know, this committee has been concerned about what a U.S.-Russia missile defense agreement negotiated by the Obama Administration might look like. Specifically, the provision I authored in this year's national defense authorization act would prohibit the exchange of sensitive missile defense sensor data and technology, such as our hit-to-kill technology. I note that the Administration expressed concern about this provision but it did not rise to the level of a veto threat. Several weeks ago, the Russian newspaper Kommersant published a report that a heretofore secret agreement tabled by you—I say secret because nothing about this "agreement" was briefed to Congress—with your Russian counterpart that President Obama actually had to reject. Surely, as a former Member of Congress, you understand that the Congress has a vital oversight function. In the absence of transparency by the Administration, the Congress has no choice but to resort to legislative provisions such as the amendment I offered. Would you please provide us get a copy of that draft agreement? It appears that now it is even circulating in the Russian press.

Secretary TAUSCHER. The Administration is committed to keeping Congress informed of its missile defense efforts. We have provided numerous senior level briefings to the Congress on our efforts to cooperate with Russia on missile defense. The most recent briefing for this Committee was held on December 21, 2011. The Administration is currently pursuing a political framework that would open the way for practical cooperation with Russia on missile defense. There are a variety of ways to establish such a political framework. No agreement has been reached on the content, and no decision has been made on a format. The political framework would not be a legally binding agreement. Any finalized statement will be shared with Congress. The Administration has been clear that it will not agree to any constraints limiting the development or deployment of U.S. and NATO missile defense systems.

Mr. BROOKS. The State Department has been negotiating a Defense Technology Cooperation Agreement (DTCA) with Russia since the beginning of the Obama Administration, but a copy of a draft of that agreement has never been shared with this committee or anywhere in the Congress as far as I am aware. Ms. Tauscher, by refusing to share this draft document with the Congress, it appears that the Administration seems to trust the Russians more than Congress.

a. Can you help us resolve this situation? Can you make clear for the members of this subcommittee whether the United States will share with the Russian Federation telemetric information on U.S. missile defense interceptor or target vehicles? Do you understand why the House passed my amendment prohibiting the sharing of "sensitive" missile defense information with the Russians when we can't even see what you're offering them? This is not the only concern, with such information sharing, but it is a weighty one. Are you willing to share any classified U.S. missile defense technology with Russia? What classified information is Russia willing to share with us?

b. Perhaps most distressing is talk of guarantees for Russia concerning our missile defenses. Ms. Tauscher, can you please tell us the Administration position concerning missile defense agreements and guarantees for Russia? What of NATO guarantees? We are told that the United States may outsource to NATO, perhaps at the May 2012 Chicago NATO Summit, political guarantees to Russia about our missile defenses. Is that something you and the State Department would support? Regarding the guarantees the Obama Administration is willing to provide, would you see any reason a future Administration wouldn't be able to just walk away from the guarantees the Obama Administration is willing to provide, would you see any reason a future Administration wouldn't be able to just walk away from the guarantee you're offering? Would there be geopolitical costs to doing so? Two weeks ago, in the news clips distributed to members of this committee, where was a press report concerning Russia's S–500 ICBM-killer missile defense system. Why is so much time spent addressing Russian concerns about our missile defense system with regards to their deterrent when never a peep is heard about the extensive Russian missile defense system and is implications for the U.S. deterrent?

Secretary TAUSCHER. a. The Department of Defense is negotiating a DTCA with Russia. Such negotiations have been ongoing since initiated during the Bush Administration in 2004. We will not provide Russia with sensitive information about our missile defense systems that would in any way compromise our national security. For example, hit-to-kill technology and interceptor telemetry will not, under any circumstances, be provided to Russia.

However, in the event that the exchange of classified information with Russia on missile defense will increase the President's ability to defend the American people, U.S. deployed forces, allies, and partners, the President will retain the right to do so. These factors are the same ones that motivated the last Administration to have determined that some classified information exchange with Russia on missile defense would benefit the United States.

In those circumstances where an exchange of sensitive data with Russia would benefit the national security of the United States, the Administration will only do so contingent on an agreement regarding information handling and protection, including the prohibition of access to such information by third parties. Additionally, any Russian access to classified information would be strictly governed by U.S. National Disclosure Policy and other applicable laws, including a determination that such exchange benefits the United States. The President has also ordered us to closely consult with the appropriate Members of Congress before the exchange of classified information with Russia.

b. The Administration has consistently stated that it will not agree to legally binding restrictions or limitations on U.S. or NATO missile defenses. The Administration has stated, publicly and privately, that the missile defense system being established in Europe is not directed against Russia. The Administration is prepared

to put the same statement in writing as part of a political framework that would open the way for practical cooperation with Russia on missile defense. There are a variety of ways to establish such a political framework. No agreement has been reached on the content, and no decision has been made on a format. The political framework would not be a legally binding agreement. The Administration would also support, in coordination with and subject to agreement by all Allies, such a statement by NATO.

With Russia, the Administration is pursuing an agenda aimed at bringing the strategic military postures of our two countries into alignment with our post-Cold War relationship—no longer enemies, no significant prospect of war between us, and cooperating when mutually advantageous. Therefore, Russia is not the focus of U.S. BMD.

QUESTIONS SUBMITTED BY DR. FLEMING

Dr. FLEMING. When will the New START force structure be determined? When does it need to be determined in order to achieve implementation not later than February 2017? Specifically, with respect to potential strategic force reductions under New START:

a. Are the full costs of eliminating, converting from deployed to non-deployed, and converting to non-nuclear status DOD systems known by the Department?

b. If the Navy and STRATCOM are comfortable with 192 launchers on 12 SSBN–X submarines based on the assumption that New START levels will be those required in 2027 and beyond, meaning 48 fewer launchers than suggested for the submarine-based deterrent in the original 1251 plan, what other reductions are needed to the ICBM and bomber legs to comply with the New START limits?

Dr. MILLER. To date, no final decisions have been made with respect to future force structure or the modernization plans for nuclear delivery systems; such decisions will be informed by the Administration's ongoing Nuclear Posture Review (NPR) Implementation Study. These decisions will be consistent with the goals of the NPR, including maintaining strategic stability, providing assurance to our Allies and partners regarding the credibility of the U.S. nuclear umbrella and other security commitments, and maintaining a safe, secure, and effective nuclear deterrent.

The final costs of implementing New START Treaty will be dependent on decisions concerning the future force structure, conversion and elimination procedures, facility requirements for supporting inspections or conversion and elimination procedures, and possibly the development of additional inspection equipment. Although the NPR provided certain recommendations concerning force structure, it did not specify a New START Treaty-compliant structure nor set the schedule for its implementation, aside from a seven-year implementation period of the Treaty. Costs will also be dependent on the procedures that are selected for the conversion or elimination of U.S. strategic offensive arms. The Treaty provides the flexibility for the United States to decide what conversion or elimination procedures are most suitable given its strategic requirements.

Dr. FLEMING. One of the binding conditions (condition 9(B)) of the Senate's Resolution of Ratification for the New START Treaty says: "If appropriations are enacted that fail to meet the resource requirements set forth in the President's 10-year [Section 1251] plan ... the President shall submit to Congress, within 60 days of such enactment ... a report detailing—(1) how the President proposes to remedy the resource shortfall; (2) if additional resources are required, the proposed level of funding required and an identification of the stockpile work, campaign, facility, site, asset, program, operation, activity, construction, or project for which additional funds are required; (3) the impact of the resource shortfall on the safety, reliability, and performance of United States nuclear forces; and (4) whether and why, in the changed circumstances brought about by the resource shortfall, it remains in the national interest of the United States to remain a Party to the New START Treaty."

a. Administrator D'Agostino, General Kehler, and Dr. Miller: Which of you is responsible for this report? Has the President delegated his responsibility on this requirement from the Resolution of Ratification?

b. The current continuing resolution funds NNSA's modernization plans well-below the FY12 levels laid out in the 1251 plan—essentially at a level 1.5% below FY11. Is the administration preparing a report for submission to Congress per this requirement? Please submit such a report, in writing, prior to the expiration of the current CR.

c. If the funding levels for Weapons Activities in the Energy and Water appropriations bills in the House and Senate are enacted, or if sequestration or a budget deal

results in funding for Weapons Activities less than that laid out in the Section 1251 plan, will the administration submit a report per this binding condition?

Dr. MILLER. The President has not delegated his responsibility on this requirement from the Resolution of Ratification. Should there be a resource shortfall, DOD would expect to work closely with the National Security Staff (NSS) and National Nuclear Security Administration (NNSA) in drafting the President's report specified in Condition 9(B) of the Senate's Resolution of Ratification for the New START Treaty. At this time, it would be inappropriate to assume that a resource shortfall exists; the Administration continues to support full funding in an Appropriations bill.

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General KEHLER. Discussions regarding final nuclear force structure for New START are ongoing. Once a final force structure decision is reached Services will be able to finalize costs to conduct any necessary conversions, eliminations, and non-deployment of systems.

A. The Air Force and the Navy estimates of expected costs are based on the force structure detailed in the current 1251 Report. Once a decision has been made on a final force structure the Services will refine estimates.

B. The *Ohio* Replacement SSBN will not enter strategic service until after New START has expired. The future strategic environment and other factors will ultimately determine future force structure requirements.

Dr. FLEMING. General Kehler, as you know B–52 and B–2 bombers are hardened to protect them from electromagnetic radiation in the event of a nearby nuclear detonation.

a. Why is this hardening important in terms of STRATCOM's operational construct?

b. Will the next generation bomber be nuclear-hardened as well?

c. Can STRATCOM estimate the additional developmental and life cycle costs associated with hardening the next generation bomber?

d. General Kehler, you stated at a recent breakfast with the Defense Writers Group (10–18–11) that the follow-on bomber "has to be long range." Can you please elaborate on the importance of this concept? Also, can you describe what its combat payload will be relative to our current heavy bombers, the B–52 and B–2?

e. Will it be nuclear certified from Initial Operational Capability? If not, why?

f. Please describe in detail STRATCOM's requirements for warhead modernization on the next ALCM, a.k.a., the long-range standoff missile. Has STRATCOM performed an analysis of alternatives on warhead options, and what the projected costs for each alternative are? Is the W84 one of the alternatives being studied? If yes, do a sufficient number of W84s exist in the enduring stockpile to fulfill the requirement?

General KEHLER. A. Bombers must be capable of operating in a variety of environments, to include nuclear effects environments—hardening directly supports bomber survivability and effectiveness, underwriting deterrence and assurance.

B. Yes, USSTRATCOM has conveyed a requirement for a nuclear hardened bomber to the Air Force.

C. The Air Force is not at a point in the development process that would enable a detailed cost estimate for the new bomber. We anticipate hardening to be a relatively small percentage of the overall cost, if incorporated in initial designs.

D. Denying geographic sanctuary to potential adversaries is an important aspect of deterrence. The new bomber must have sufficient range to hold targets that adversaries value at risk. Trades concerning specific capabilities e.g. payload and range, are being evaluated.

E. The new bomber will be nuclear capable, but nuclear certification timeline decisions have yet to be made.

F. The next ALCM requires a safe, secure and effective warhead. The Air Force is conducting an analysis of alternatives including a specific working group with USSTRATCOM representatives to examine warhead alternatives, including the W84. The alternatives will require varying investments; however, a detailed concept

and cost study has not been started. There are not enough W84 assets to field a cruise missile replacement at current ALCM levels.

Dr. FLEMING. General Kehler, please explain in detail why the B61 LEP is important to the bomber leg of our strategic deterrent.

General KEHLER. The B61 is an important part of DOD's long range planning to ensure the bomber leg of the strategic deterrent remains credible. The B61 LEP will provide a refurbished weapon capable of being employed on the B–2 and integrated with a future bomber. Additionally, the B61 nuclear package will be evaluated for incorporation into a future stand-off missile.

Dr. FLEMING. One of the binding conditions (condition 9(B)) of the Senate's Resolution of Ratification for the New START Treaty says: "If appropriations are enacted that fail to meet the resource requirements set forth in the President's 10-year [Section 1251] plan ... the President shall submit to Congress, within 60 days of such enactment ... a report detailing—(1) how the President proposes to remedy the resource shortfall; (2) if additional resources are required, the proposed level of funding required and an identification of the stockpile work, campaign, facility, site, asset, program, operation, activity, construction, or project for which additional funds are required; (3) the impact of the resource shortfall on the safety, reliability, and performance of United States nuclear forces; and (4) whether and why, in the changed circumstances brought about by the resource shortfall, it remains in the national interest of the United States to remain a Party to the New START Treaty."

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General KEHLER. A number of agencies are responsible for inputs to, and review of the report, including USSTRATCOM. The President has not yet delegated his responsibility on this requirement from the Resolution of Ratification, but USSTRATCOM stands ready to assist as needed.

Dr. FLEMING. Ms. Tauscher, please explain in detail why the B61 LEP is important to our allies.

Secretary TAUSCHER. The B61 life extension program (LEP) will ensure its functionality with the dual capable aircraft as well as ensure continued confidence in the warhead's safety, security, and effectiveness. The B61 LEP will ensure that the United States maintains the capability to forward deploy U.S. nonstrategic nuclear weapons to Europe in support of its Alliance commitments and that our arsenal is safe, secure, and effective. The decision to conduct a B61 LEP does not presume the results of future decisions within NATO about the requirements of nuclear deterrence and nuclear sharing, but keeps all options open.

Likewise, the B61 plays a significant role in assuring our allies in Asia. As you know, as a result of our Nuclear Posture Review, the United States will retire the TLAM–N. That decision was made after close consultation with our allies, during which we assured them that there would be no diminution of our extended deterrence commitment and capabilities. The B61 is an important component of those capabilities.

Dr. FLEMING. Mr. D'Agostino, please explain in detail why the B61 LEP is needed, both for the extended deterrent in Europe and to the bomber leg of the U.S. TRIAD.

Mr. D'AGOSTINO. The B61 Life Extension Program (LEP) supports the sustainment of the U.S. strategic and non-strategic nuclear capability. Consistent with U.S. commitments to the North Atlantic Treaty Organization (NATO) and the findings of the 2010 Nuclear Posture Review, the B61 LEP will ensure the U.S. retains its capability to forward-deploy non-strategic nuclear weapons in support of its Alliance commitments. Furthermore, it is a key component of the air-delivered strategic deterrent and ensures continued contribution of the bomber leg of the Triad to nuclear deterrence.

The B61 bomb is one of the oldest warheads in the stockpile and has components dating from the 1960's, such as vacuum tube radars. The B61 LEP provides the opportunity to include modern safety and security technologies, sustain system effectiveness, optimize NNSA production capacity, and reduce costs over the long-term.

Dr. FLEMING. One of the binding conditions (condition 9(B)) of the Senate's Resolution of Ratification for the New START Treaty says: "If appropriations are enacted that fail to meet the resource requirements set forth in the President's 10-year [Section 1251] plan ... the President shall submit to Congress, within 60 days of such enactment ... a report detailing—(1) how the President proposes to remedy the resource shortfall; (2) if additional resources are required, the proposed level of funding required and an identification of the stockpile work, campaign, facility, site, asset, program, operation, activity, construction, or project for which additional funds are required; (3) the impact of the resource shortfall on the safety, reliability, and performance of United States nuclear forces; and (4) whether and why, in the changed circumstances brought about by the resource shortfall, it remains in the national interest of the United States to remain a Party to the New START Treaty."

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Mr. D'AGOSTINO. The main responsibility for this report lies with the Department of Defense. Should there be a resource shortfall, NNSA would work closely with the DOD in drafting the President's report specified in Condition 9(B) of the Senate's Resolution of Advice and Consent to Ratification for the New START Treaty.

While we recognize that fiscal austerity will constrain spending on national security programs in the years ahead, our strategic and extended deterrence will continue to be the top priority. The President committed to modernizing our nuclear weapons and infrastructure after completion of the 2010 Nuclear Posture Review—including a commitment to pursue these programs and capabilities for as long as he is President. Even in this difficult budget climate, the President's budget for NNSA continues to consistently reflect those commitments.

The Department of Defense contributed significantly to the preparation of NNSA's budget requests for FY2011 and FY2012, and is prepared to continue support at least through FY2016. These contributions are reflective of the close linkage between NNSA's nuclear weapons programs and the specific needs of its partner, the Department of Defense. Without adequate funding for NNSA, however, the nuclear weapons life extension programs, nuclear infrastructure modernization, and the retention of the people on which we depend to maintain a safe, secure, and effective nuclear arsenal, may be at risk and will continue to be analyzed in consultation with the Department of Defense.

QUESTIONS SUBMITTED BY MR. SCOTT

Mr. SCOTT. How is deterring China different from deterring Russia?

a. How is providing extended deterrence in Europe different than doing so in East Asia?

b. During a recent Strategic Forces Subcommittee hearing on the nuclear weapons programs of Russia and the People's Republic of China, Dr. Mark Schneider stated:

"We know a lot less about China overall than we know about the Russians in nuclear capability, if for no other reason that the Russians talk about it all the time, where the Chinese are fairly secretive. I think you can find deliberate leaks by the PLA in Hong Kong Press. I think they are using that as a mechanism of debating some issues that they can't openly debate in China. But I suspect we are going to see a very large increase in Chinese capability, including extensive MIRVing."

How do we hedge the uncertainty in our understanding of China's nuclear weapons program? How will this be reflected in the Administration's mini-NPR on nuclear weapons targeting? Why do you think China has a large underground tunnel complex for its second artillery?

Dr. MILLER. Fundamentally, deterrence requires that, in the calculations of any potential adversary, the perceived gains of attacking the United States or its allies and partners would be far outweighed by the unacceptable costs of the response. But in seeking to deter potential adversaries, there is no "one size fits all" approach. The requirements of deterrence vary by circumstance, including the capabilities of

the adversary, the nature of the issue in dispute, and the ability and willingness of the adversary to escalate—and to exercise restraint. Uncertainty is an enduring feature of the deterrence equation, though the United States makes a priority of trying to reduce such uncertainty with detailed assessments of the intentions and capabilities of potential adversaries. Uncertainty about the potential future nuclear weapons capabilities of other states is also an enduring theme of U.S. deterrence policy. Every President in the nuclear era has sought to have some capacity to respond to a significant erosion of the nuclear security environment. The United States hedges against such uncertainty by ensuring that it has the technical means to cope with geopolitical surprise, with a mix of short-term responses (such as the potential to up-load existing weapons onto existing delivery systems) and long-term responses (the production and deployment of new capabilities). The requirements of this hedge are one of the many elements in review in the NPR Implementation Study.

China's large underground tunnel complex fits well with China's overall military strategy. It enables China to conceal capabilities, in a manner consistent with its general lack of transparency. And it helps to ensure that its leadership and any hidden capabilities survive attack.

Providing extended deterrence to Allies in NATO and in East Asia is similar in some ways and different in others. It is similar in a) an appropriate mix of nuclear and non-nuclear capabilities; b) a combination of capability and credibility to effectively deter potential adversaries and assure Allies; c) appropriate consultations between the United States and Allies; and d) adjustments over time to account for changes in the security environment.

Providing extended deterrence to Allies in NATO and in East Asia is different in several respects, including: a) different mutual expectations about the specific modalities of nuclear deployments, as reflected in differing historical practices; and b) different assessments of the specific requirements for deterring potential adversaries.

Mr. SCOTT. Some budget cutting proposals that are circulating have suggested significantly reducing the size of our intercontinental ballistic missile (ICBM) force to save money. For instance, eliminating one-third of the ICBM force by cutting one of the three wings.

a. Does the New START Treaty require us to close down an entire ICBM wing to meet its deployed strategic launcher limit? What about eliminating a squadron?

i. Would such a cut amount to a unilateral reduction in delivery vehicles?

ii. Is such a reduction being considered in the 90-day NPR Implementation Study?

b. Based on the most recent public data released as part of a New START Treaty data exchange, if we were to eliminate 150 ICBMs this would be more than enough to put us below the 700 deployed strategic launchers limit. Would we then retain all of our forces in the other legs of the triad, to remain at or near the New START limit?

c. Please describe when de-MIRVing of our ICBMs will begin to occur under the 2010 NPR. Please describe when DOD intends to have that process and completed, how much it will cost, and how the skill set required to upload in the event that is necessary will be maintained.

Dr. MILLER. The New START Treaty does not require the United States to reduce any specific element of its strategic forces. To date, no final decisions have been made with respect to future strategic nuclear force structure; such decisions will be informed by the Administration's ongoing NPR implementation study.

The elimination of 150 deployed ICBMs, if that were to be decided (and to respond to your specific conjecture) would allow the United States to retain all or virtually all of its current deployed strategic forces in the other legs of the Triad under the limits of the New START Treaty. Force structure decisions will be consistent with the goals of the Nuclear Posture Review (NPR), including maintaining strategic stability, providing assurance to our Allies and partners of the credibility of the U.S. nuclear umbrella and other security commitments, and maintaining a safe, secure, and effective nuclear deterrent. I expect a final decision regarding the specific force mix for New START Treaty implementation to be made following the conclusion of the NPR implementation study in the near term.

The "de-MIRVing" (reduction of Multiple Independent Reentry Vehicle capability) of our ICBM forces has already begun. In order to maximize safety and security, we have allowed the Air Force to begin de-MIRVing ICBMs in conjunction with its previously established maintenance plans. This minimizes disruption to our operational forces and is the most cost-effective method for carrying out the NPR guidance to de-MIRV the ICBM force.

Mr. SCOTT. How is deterring China different from deterring Russia?

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b. During a recent Strategic Forces Subcommittee hearing on the nuclear weapons programs of Russia and the People's Republic of China, Dr. Mark Schneider stated:

"We know a lot less about China overall than we know about the Russians in nuclear capability, if for no other reason that the Russians talk about it all the time, where the Chinese are fairly secretive. I think you can find deliberate leaks by the PLA in Hong Kong Press. I think they are using that as a mechanism of debating some issues that they can't openly debate in China. But I suspect we are going to see a very large increase in Chinese capability, including extensive MIRVing."

How do we hedge the uncertainty in our understanding of China's nuclear weapons program? How will this be reflected in the Administration's mini-NPR on nuclear weapons targeting? Why do you think China has a large underground tunnel complex for its second artillery?

General KEHLER. The primary difference in how extended deterrence is provided today is that in Europe we have forward deployed non-strategic nuclear capabilities and robust nuclear burden sharing commitments with our NATO allies. We do not have forward deployed non-strategic nuclear capabilities in East Asia.

In general we hedge against uncertainty, both geopolitical and technical, by retention of non-deployed warheads in the stockpile in order to provide the ability to increase warhead loading on our existing nuclear systems, and through our infrastructure's ability to diagnose and repair weapons that develop technical problems. Today, this hedge relies more heavily on the stockpile, but as our infrastructure is modernized it will assume a larger share of the required capability. The ongoing follow-on analysis to the NPR is examining our hedge requirements.

Since the early 1950s, the PLA has employed underground tunnels to protect and conceal its vital assets. These likely include both nuclear and conventional missile forces.

Mr. SCOTT. Some budget cutting proposals that are circulating have suggested significantly reducing the size of our intercontinental ballistic missile (ICBM) force to save money. For instance, eliminating one-third of the ICBM force by cutting one of the three wings.

a. Does the New START Treaty require us to close down an entire ICBM wing to meet its deployed strategic launcher limit? What about eliminating a squadron?

i. Would such a cut amount to a unilateral reduction in delivery vehicles?

ii. If we were to eliminate a third of our ICBM force, how would you like to see our future SSBN force structured (number of boats, number of tubes, etc.)? Are the size and makeup of the ICBM and SSBN forces linked? How?

iii. Would you support such a cut? Have you done any analysis that would support a cut of 150 ICBMs?

b. Based on the most recent public data released as part of a New START Treaty data exchange, if we were to eliminate 150 ICBMs this would be more than enough to put us below the 700 deployed strategic launchers limit. Would we then retain all of our forces in the other legs of the triad, to remain at or near the New START limit?

c. Please describe when de-MIRVing of our ICBMs will begin to occur under the 2010 NPR. Please describe when DOD intends to have that process and completed, how much it will cost, and how the skill set required to upload in the event that is necessary will be maintained.

General KEHLER. A. No, New START provides considerable flexibility to manage the deployed force and meet strategic deterrent requirements in a cost effective and safe manner over the duration of the treaty.

i. The treaty provides the flexibility to manage the deployed force within central limits, not to exceed 700 deployed strategic delivery vehicles (SDVs). My principle concern is ensuring the strategy objectives are met and deterrence and stability are maintained while ensuring we are as cost efficient as possible.

ii. Any decision to reduce Minuteman and subsequently change SSBN and bomber force structures must be based on strategy. The size and makeup of the SSBN and ICBM forces are complementary. Sufficient ballistic missile capabilities must be retained to address strategy requirements. Therefore, potential adjustments in Minuteman would result in a reassessment of the entire force structure.

iii. Any adjustment to Minuteman must be strategy based. USSTRATCOM is participating in the ongoing National Security Staff (NSS)-led interagency activity and is providing analysis and military advice to OSD and the Joint Staff. Any detailed discussion of that analysis and potential implications to our current force structure is premature.

B. Not necessarily. I am concerned about meeting policy and strategy objectives and maintaining deterrence and stability. New START provides the U.S. consider-

able flexibility in determining the composition and structure of its strategic offensive arms. New START provides the option of retaining force structure, if required, and deployed strategic launchers should be viewed as a "ceiling" not a "floor," so we can meet our operational needs with flexibility.

C. We are working with the Air Force to develop plans to begin de-MIRVing Minuteman in FY12. There are many factors that impact completion date including integration with other maintenance activities and weather. In the near-term, skills to accomplish re-MIRVing is not an issue. I have asked the Air Force to develop long-term re-MIRVing plans to include cost and skill set retention.

Mr. SCOTT. Under Secretary Tauscher, we hear the Russians are placing certain conditions on starting any new arms control talks—in other words, Russia is saying these conditions must be met before any negotiations can begin on another arms control agreement. For instance, we have heard that Russia is demanding that U.S. nuclear weapons be removed from Europe, that we destroy the infrastructure in Europe that supports those weapons so that they cannot be easily redeployed, and that NATO allies cease training for the nuclear mission. Is this correct? What other conditions is Russia saying must be met by the U.S. before negotiations can begin? What conditions is the United States saying must be met by Russia before negotiations can begin?

Secretary TAUSCHER. Some Russian officials have suggested that several issues should be considered in future discussions, but whether those suggestions amount to preconditions remains unclear. In regards to tactical nuclear weapons, Russian Foreign Minister Lavrov on March 1, 2011, stated at the UN Conference on Disarmament that the "first step" towards reductions in these weapons should be the "withdrawal of tactical nuclear weapons to the territory of the State to which they belong as well as removal of the infrastructure for their deployment abroad."

The United States rejects preconditions for discussions with Russia to reduce nuclear weapons. The President has certified to the Senate and the United States has made clear to the Russians that we seek to initiate negotiations with the Russian Federation on an agreement to address the disparity between the nonstrategic nuclear weapons stockpiles of the Russian Federation and the United States and to secure and reduce these weapons in a verifiable manner and that such negotiations shall not include defensive missile systems. Indeed, the United States is committed to continuing a step-by-step process, as outlined by President Obama in Prague in 2009, to reduce the overall number of nuclear weapons, including the pursuit of a future agreement with Russia for broad reductions in all categories of nuclear weapons: strategic, nonstrategic, deployed and nondeployed.

As a first step, we want to have a broad policy discussion with Russia on stability, security, and confidence-building, which will help lay the groundwork for eventual further nuclear arms reductions.

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