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NUCLEAR POSTURE REVIEW

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BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

APRIL 22, 2010

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NUCLEAR POSTURE REVIEW

THURSDAY, APRIL 22, 2010

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The committee met, pursuant to notice, at 9:35 a.m. in room SD–G50, Dirksen Senate Office Building, Senator Carl Levin (chairman) presiding.

Committee members present: Senators Levin, Lieberman, Reed, Bill Nelson, Ben Nelson, Udall, Hagan, Burris, Bingaman, Kaufman, McCain, Sessions, Chambliss, Thune, Wicker, LeMieux, and Collins.

Committee staff members present: Richard D. DeBobes, staff director; and Leah C. Brewer, nominations and hearings clerk.

Majority staff members present: Madelyn R. Creedon, counsel; and Jessica L. Kingston, research assistant.

Minority staff members present: Joseph W. Bowab, Republican staff director; Christian D. Brose, professional staff member; Michael V. Kostiw, professional staff member; and Daniel A. Lerner, professional staff member.

Staff assistants present: Paul J. Hubbard, Jennifer R. Knowles, and Christine G. Lang.

Committee members' assistants present: Christopher Griffin, assistant to Senator Lieberman; Carolyn A. Chuhta, assistant to Senator Reed; Greta Lundeberg, assistant to Senator Bill Nelson; Ann Premer, assistant to Senator Ben Nelson; Patrick Hayes, assistant to Senator Bayh; Gordon I. Peterson, assistant to Senator Webb; Roger Pena, assistant to Senator Hagan; Jonathan Epstein, assistant to Senator Bingaman; Halie Soifer, assistant to Senator Kaufman; Rob Soofer, assistant to Senator Inhofe; Lenwood Landrum and Sandra Luff, assistants to Senator Sessions; Clyde A. Taylor IV, assistant to Senator Chambliss; Jason Van Beek, assistant to Senator Thune; Erskine W. Wells III, assistant to Senator Wicker; and Brian Walsh, assistant to Senator LeMieux.

OPENING STATEMENT OF SENATOR CARL LEVIN, CHAIRMAN

Chairman LEVIN. Good morning, everybody.

Today, the Armed Services Committee will hear from James Miller, Deputy Under Secretary of Defense for Policy; General Kevin Chilton, Commander of the U.S. Strategic Command (STRATCOM); Ellen Tauscher, Under Secretary of State for Arms Control and International Security; and Thomas D'Agostino, Administrator of the National Nuclear Security Administration

(NNSA). The topic this morning is the recently released Nuclear Posture Review (NPR).

This is the third NPR since 1994, and the first to be completely unclassified. I commend each of our witnesses this morning for working to achieve that result. An unclassified NPR should allow discussions on the role and the future of nuclear weapons to be held publicly, which will help to demystify an often technically complex subject.

As the Senate considers the New Strategic Arms Reduction Treaty (START), an open discussion on nuclear weapons policy will help assure the American people that ratification of this new treaty will strengthen U.S. national security and enhance U.S. nonproliferation goals.

There are five key objectives of the new NPR: first, preventing nuclear proliferation and nuclear terrorism; second, reducing the role of U.S. nuclear weapons and U.S. national security 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, sustaining a safe, secure, and effective nuclear arsenal.

This new NPR allows for continued reductions in deployed nuclear weapons, and also lays the foundation for substantial future reductions in the total nuclear weapons stockpile. Having fewer nuclear weapons reduces the danger that these weapons and nuclear materials might fall into the wrong hands. Preventing proliferation and nuclear terrorism, and maintaining a strong deterrent are all important parts of nuclear policy and this NPR.

In addition to the commitment for modern nuclear weapons complex needed to maintain an even smaller total stockpile, this NPR makes other significant decisions. It will eliminate nuclear Tomahawks and would finally implement a decision from the 1994 NPR, to remove multiple warheads from land-based intercontinental ballistic missiles (ICBM). This NPR will also change the way the United States thinks about nuclear weapons, by reducing their role in U.S. policy. It will strengthen nonproliferation and take a broader, more balanced approach to deterrence. It affirms that the United States will not return to nuclear testing, in that there is no technical need and no military requirement for a new nuclear weapon. It also recognizes that supporting our non-nuclear allies and partners is an important element of regional security, and strengthens the Nuclear Nonproliferation Treaty (NPT).

Some think that this NPR does not go far enough down the road to zero, while others think the reductions are too dramatic, and the policies are unrealistic.

These are the topics that we'll discuss and debate in the coming months as the Senate considers the New START treaty and, hopefully, at some not-too-distant point, the Comprehensive Test Ban Treaty.

Just last week, this committee held a hearing on Iran, where we discussed that government's refusal to give up its nuclear program, in defiance of its international obligations. North Korea withdrew from the NPT, demonstrated its nuclear weapons capability, and fails to live up to its commitments in the Six-Party Talks.

Intelligence assessments tell us that terrorists continue to seek nuclear materials and technologies, and would most likely use a nuclear device if they had one. But, with 90 percent of the world's nuclear weapons, the United States and Russia must lead the world in the direction of zero. This NPR is the roadmap for the United States to move in that direction, which is not only sound policy, but one required by the NPT, to which we're a party.

Senator McCain.

STATEMENT OF SENATOR JOHN MCCAIN

Senator MCCAIN. Thank you, Mr. Chairman.

I thank our witnesses for their service to our country and for joining us today to discuss this very important issue.

This month has seen some significant changes to our Nation's nuclear policy. Today's hearing on the 2010 NPR is the first of a number of important upcoming opportunities to assess and review the current and future role of our nuclear deterrent. I look forward to engaging with our witnesses today and addressing some of the concerns that appear to arise from this NPR.

This year's review appropriately reiterates the widely acknowledged need to maintain a credible nuclear deterrent, to pursue a sound stockpile management program, to modernize our aging nuclear facilities, and to invest in human capital. Unfortunately, the NPR seems to limit, inappropriately, the ability of our nuclear complex to ensure the highest level of safety, security, and reliability.

In their analysis of the stockpile, the bipartisan Perry-Schlesinger Strategic Posture Commission recommended that a full spectrum of options be available for stockpile modernization. The Commission recommended that life-extension programs be "guided by the principle of finding the optimum approach for each unique weapon." The NPR appears to constrain the ability of our scientists to utilize the full range of options by asserting that refurbishment and reuse techniques are the methods of choice for life extension. Instead, we should not rule out any stockpile modernization options that are achievable, including replacement, which may be the best option in some cases.

Another concern raised by this NPR is its change to our Nation's longstanding nuclear declaratory policy of calculated ambiguity, which has been embraced by past administrations on a bipartisan basis. This declaratory policy has successfully and effectively deterred aggressors by preserving the use of all options in response to an attack on the United States or our allies. The Perry-Schlesinger Commission advocated maintaining this declaratory policy as a "critical element for reinforcing restraint and caution on the part of a potential aggressor." This administration has now overturned that policy, and I look forward to hearing from our witnesses on why they believe that less ambiguity, as proposed by the President, will be as, or more, effective than the previous policy, and how this makes us safer.

Another concern stems from the assumption made in the NPR that the development of conventional capabilities, such as Prompt Global Strike, will lead to the reduction of the role that nuclear weapons play in our deterrence posture. To be sure, conventional weapons can augment or support our deterrence posture, but they

are no substitute for nuclear weapons. Again, I look forward to the witnesses' explanation for why this planning assumption was made and why it's effective.

I'm also significantly concerned that no one has yet addressed the overall affordability of the course set out in this NPR. The cost, alone, for modernizing both the nuclear weapons complex and the triad is substantial; and as we move to reduce our nuclear stockpile, this modernization effort becomes all the more important.

Factoring in the cost of missile defense and Prompt Global Strike, both essential and critical, but also costly programs, the overall budget outlook becomes daunting. I look forward to discussing the notion of affordability, both in the near-term and the long-term, and further exploring how committed this administration is to resourcing these costly, albeit essential, modernization and development efforts.

Finally, I would just reiterate that the key test of our Nation's credibility on nuclear issues is not whether, or how much, we reduce our nuclear arsenal, but whether we meet the nuclear proliferation threats posed by regimes like Iran and North Korea.

I agree with the NPR's conclusion that the two primary threats to international security are nuclear terrorism and nuclear proliferation. Unfortunately, when it comes to Iran and North Korea, this administration has little to show for 15 months of effort. Meeting the proliferation threats posed by rogue states like these must be our top priority as we determine our nuclear posture and work to shore up the global nonproliferation regime. Otherwise, all of our efforts to reduce our nuclear arsenal, as well as our reliance on it, will be for naught.

I thank you, Mr. Chairman, and I thank the witnesses.

Chairman LEVIN. Thank you very much, Senator McCain.

We'll start with Secretary Miller.

STATEMENT OF HON. JAMES N. MILLER, PRINCIPAL UNDER SECRETARY OF DEFENSE FOR POLICY

Dr. MILLER. Thank you.

Mr. Chairman, Senator McCain, distinguished members of the committee, thank you for the opportunity to testify today. It's a pleasure to join my esteemed colleagues in discussing the U.S. nuclear policy and capabilities, and to have worked with them closely throughout the NPR.

The 2010 NPR provides a roadmap for implementing the President's Prague agenda of reducing the role and numbers of nuclear weapons, with the ultimate goal of a world free of nuclear weapons. Because we recognize that this goal will not be reached quickly, perhaps not in our lifetimes, the NPR outlines specific steps needed to sustain a safe, secure, and effective nuclear deterrent as long as nuclear weapons exist. The fiscal year 2011 budget requests from the Department of Defense (DOD), Department of Energy (DOE), and Department of State (DOS) are important installments in this long-term effort.

The 2010 NPR identified the most urgent nuclear dangers today as nuclear proliferation and nuclear terrorism, and has outlined a comprehensive approach to deal with these challenges that includes policy initiatives and increased investments in a number of areas.

As the chairman noted, more broadly, the NPR identified five key areas and five key objectives for U.S. nuclear policy. First, it is a top priority, preventing nuclear proliferation and nuclear terrorism. Second, reducing the role of U.S. nuclear weapons in our national security strategy. Third, maintaining strategic deterrence and stability at reduced nuclear force levels. Fourth, strengthening regional deterrence and reassuring U.S. allies and partners. Fifth, sustaining a safe, secure, and effective nuclear arsenal.

Given that the committee has received the NPR report, I will not summarize all of its conclusions, but will focus my remarks on declaratory policy and on the plans for nuclear and conventional forces.

The 2010 NPR aims to make clear to other countries the benefits of complying with the NPT, and the potential consequences of not doing so. It strengthens the U.S. Negative Security Assurance associated with the NPT by stating that: "The United States will not use or threaten to use nuclear weapons against non-nuclear-weapon states that are party to the NPT and in compliance with their nuclear nonproliferation obligations."

A bit of historical context is useful here. The United States first offered a Negative Security Assurance associated with the NPT not to use nuclear weapons against non-nuclear-weapons states in 1978. This pledge was reiterated by subsequent administrations in 1995 and in 2002. This NPR includes a critical change in this assurance. Unlike previous pledges, the revised assurance stipulates that a state must not only be party to the NPT, but that it must be in compliance with its nuclear nonproliferation obligations. This is a determination that will be made by the United States.

For non-nuclear-weapon states that are in compliance with their nuclear nonproliferation obligations, which include the vast majority of countries in the world, the United States is reiterating and clarifying its longstanding pledge not to use or threaten to use nuclear weapons against them.

At the same time, the NPR is clear that if any such non-nuclear-weapon states were to make the grave error of attacking the United States or allies and partners with chemical or biological weapons, it would face a devastating conventional military response and their leadership would be held fully accountable. This pledge is backed by the most formidable military in the world, and the administration is committed to not only sustaining, but strengthening, our conventional military power.

The NPR also makes clear that states that do not meet their nonproliferation obligations, such as North Korea and Iran, are not covered by this Negative Security Assurance. For these noncompliant states, and for nuclear-weapon states such as Russia and China, U.S. nuclear weapons still play a role in deterring, not only nuclear attack, but also conventional chemical and biological attack against the United States, our allies, and partners.

These clear declaratory statements strengthen our nonproliferation efforts and reinforce our ability to deter potential adversaries with precise and credible statements, backed by the full strength of the U.S. military.

One of the first tasks of the NPR, which continued throughout the review, was to define positions for the New START treaty nego-

tiations, including appropriate limits on delivery vehicles and on nuclear warheads, and the DOD NPR team reached the following conclusions:

First, the United States should retain a nuclear triad of ICBMs, submarine launched ballistic missiles (SLBM), and dual-capable heavy bombers under New START treaty.

Second, as the chairman noted, all U.S. ICBMs should be deMIRVed to a single warhead each, in order to reinforce strategic stability.

Third, an ability to upload nondeployed nuclear weapons on delivery vehicles should be retained as a hedge against technical or geopolitical surprise, and preference should be given to bombers and strategic submarines over ICBMs for upload.

The administration will provide additional details on plans for U.S. Strategic Forces under the New START treaty soon, when we submit a report required by Congress, under section 1251 of the 2010 National Defense Authorization Act (NDAA), associated with submission of the treaty for advice and consent of the Senate.

The NPR also concluded that the United States should retain the ability to provide extended deterrence to allies and partners.

First, we'll retain the capability to forward-deploy U.S. nuclear weapons on tactical fighter bombers and dual-capable heavy bombers.

Second, we propose to proceed with full scope life-extension study and follow-on activities for the B–61 bomb, to ensure that first production can occur in 2017.

Third, we will retire the nuclear sea-launched cruise missile, or Tomahawk Land Attack Missile-Nuclear, as a redundant capability.

Fourth, we'll continue our extensive consultations with allies and partners to ensure the credibility and effectiveness of the U.S. extended deterrence.

Fifth, decisions about the future of the North Atlantic Treaty Organization (NATO) nuclear weapons will be made through the NATO processes, and not unilateral decisions. That consultative process is now underway.

I'd like to say just a couple of words about long-range strike capabilities, and then conclude.

Today, the United States has a wide range of non-nuclear long-range strike capabilities, including conventional-only and dual-capable heavy bombers in both sea-launched and air-launched conventional cruise missiles. Of these systems, only dual-capable heavy bombers are accountable under the New START treaty. The NPR concluded that the United States should also develop non-nuclear Prompt Global Strike capabilities, and should focus such capabilities on regional threats, while not undermining strategic stability, vis-à-vis Russia and China. Conventional Prompt Global Strike capabilities are allowed under the New START treaty.

In closing, a key premise of the 2010 NPR was that reducing nuclear dangers to the United States, including sustaining effective deterrence, is a long-term challenge that will require support from a long succession of U.S. administrations and Congress. Laying the groundwork for a sustainable bipartisan consensus was, and is, a central purpose of this NPR.

I'd ask that my prepared statement be entered into the record, and I look forward to your questions.

Thank you.

[The prepared statement of Dr. Miller follows:]

PREPARED STATEMENT BY DR. JAMES N. MILLER

Mr. Chairman, Senator McCain, distinguished members of the committee, thank you for the opportunity to testify today. It is a pleasure to join Commander of U.S. Strategic Command, General Kevin Chilton, National Nuclear Security Administrator Thomas D'Agostino, and Under Secretary of State Ellen Tauscher in discussing U.S. nuclear policy and capabilities. I will focus my remarks on the recently completed Congressionally-mandated Nuclear Posture Review (NPR).

The 2010 NPR provides a roadmap for implementing the President's Prague agenda of reducing the role and numbers of nuclear weapons, with the ultimate goal of a world free of nuclear weapons. Because this goal will not be reached quickly, perhaps not in our lifetimes, the NPR outlines the specific steps needed to sustain a safe, secure, and effective nuclear deterrent as long as nuclear weapons exist. The fiscal year 2011 budget requests from the Departments of Defense and Energy demonstrate our commitment to this essential effort.

The 2010 NPR identifies the most urgent nuclear dangers today as proliferation and the potential for nuclear terrorism, and outlines a comprehensive approach to cope with these challenges that includes policy initiatives and increased investment in a number of areas. More broadly, the NPR identifies five key objectives for U.S. nuclear policy and posture:

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

Given that the committee has received the NPR report, I will not summarize all of its conclusions. I will focus my remarks on preventing proliferation and nuclear terrorism, declaratory policy, and force structure issues.

PREVENTING NUCLEAR PROLIFERATION AND NUCLEAR TERRORISM

The 2010 NPR places the prevention of nuclear proliferation and nuclear terrorism at the top of the administration's policy agenda. The recent Nuclear Security Summit in Washington, DC, the upcoming Nuclear Nonproliferation Treaty Review Conference in New York, and our continued efforts to reverse the nuclear ambitions of North Korea and Iran are critical to this effort and to U.S. national security. The administration has proposed significantly increased funding in fiscal year 2011 to reduce proliferation risks, and to improve our capabilities to detect and interdict smuggled nuclear materials or weapons. Examples include:

- Expanding funding for the Cooperative Threat Reduction program, including an increase of $75 million in fiscal year 2011 to address nuclear security efforts worldwide;
- Increasing funding in fiscal year 2011 for the National Nuclear Security Administration's nuclear nonproliferation programs to $2.7 billion, an increase of more than 25 percent;
- Enhancing U.S. Special Operations Command's ability to conduct counter-WMD operations by increasing funding by $60 million in fiscal year 2011; and
- Improving capabilities for national technical nuclear forensics technologies and the fielding of new capabilities for ground and air collection. This includes increased funding requests for DOD and DOE.

U.S. DECLARATORY POLICY

The 2010 Nuclear Posture Review makes clear the benefits to other states of complying with the Nuclear Non-Proliferation Treaty (NPT)—and the potential consequences of not doing so. It strengthens the U.S. "negative security assurance" associated with the NPT, by stating that:

> The United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear nonproliferation obligations.

The United States first offered a "negative security assurance" associated with the NPT in 1978, which was reiterated by subsequent administrations in 1995 and 2002. This NPR provides a critical change. The previous U.S. negative security assurance had a caveat focused on the Warsaw Pact, stipulating that the assurance would not apply to non-nuclear weapons states allied with a nuclear weapons state.[1] With the Warsaw Pact long gone, this caveat is no longer needed. In its place, the revised assurance provided in the NPR stipulates that a state must not only be a party to the NPT, but also that it must be in compliance with its nuclear non-proliferation obligations—a determination that will be made by the United States. This new policy makes clear that signing the NPT is necessary but not sufficient: states that do not meet their nonproliferation obligations, such as North Korea and Iran today, are not covered by the U.S. negative security assurance.

Recognizing that effective deterrence is based on both credibility and capability, the NPR makes clear that any use of chemical and biological weapons (CBW) by non-nuclear weapons states in compliance with their nuclear non-proliferation obligations face a highly credible and extremely capable U.S. conventional response. It affirms that:

> . . . any state eligible for the assurance that uses chemical or biological weapons against the United States or its allies and partners would face the prospect of a devastating conventional military response—and that any individuals responsible for the attack, whether national leaders or military commanders, would be held fully accountable.

This pledge is backed by the most formidable military in the world, and the administration is committed to not only sustaining but strengthening our conventional military power. In addition to ongoing investments, DOD is currently studying potential additional improvements to long-range strike capabilities, with specific proposals planned in the fiscal year 2012 budget request.

Given the catastrophic potential of biological weapons and the rapid pace of biotechnology development, the NPR notes that the United States reserves the right to make any future adjustment in declaratory policy that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.

For nuclear weapons states, and states not in compliance with their non-proliferation obligations, the NPR makes clear that U.S. nuclear weapons still play a role in deterring not only nuclear attack, but also conventional or CBW attack against the United States or its allies and partners. As Secretary of Gates noted recently, for states such as North Korea and Iran, "all options are on the table."

Finally, to address the potential nexus of terrorists and weapons of mass destruction, the NPR renews the U.S. commitment:

> . . . to hold fully accountable any state, terrorist group, or other non-state actor that supports or enables terrorist efforts to obtain or use weapons of mass destruction, whether by facilitating, financing, or providing expertise or safe haven for such efforts.

Nuclear weapons have not been used in conflict since 1945, and it is strongly in the interests of the United States that this nearly 65-year record of nuclear non-use continue forever. This NPR acknowledges the reality that the United States would use nuclear weapons only in extreme circumstances to protect our vital interests or those of our allies and partners.

These changes in U.S. declaratory policy reinforce our nonproliferation efforts at a critical juncture, while simultaneously maintaining and indeed strengthening deterrence of attacks on ourselves or our allies and partners.

STRATEGIC FORCE STRUCTURE

One of the first tasks of the NPR, which continued throughout the review, was to define positions for the New START treaty negotiations. The DOD-led NPR team reached the following conclusions about U.S. strategic nuclear force structure:

- The United States should retain a nuclear Triad of ICBMs, SLBMs, and dual-capable heavy bombers under New START treaty, in order to preserve strategic stability and hedge against any unexpected technical problems or

[1] In 1978, at the first U.N. special session on disarmament, Secretary of State Cyrus Vance stated: "The United States will not use nuclear weapons against any non-nuclear-weapon state party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices, except in the case of an attack on the United States, its territories or armed forces, or its allies, by such a state allied to a nuclear weapon state, or associated with a nuclear-weapon state in carrying out or sustaining the attack." Similar public statements were made by subsequent U.S. administrations in 1995 and 2002.

operational vulnerabilities in one leg of the Triad. The fiscal year 2011 budget request includes funding for each leg of the triad.

• All U.S. ICBMs should be "deMIRVed" to a single warhead each, in order to reinforce strategic stability.

• An ability to "upload" non-deployed nuclear weapons on delivery vehicles should be retained as a hedge against technical or geopolitical surprise. Preference will be given to upload capacity for bombers and strategic submarines.

The Secretary of Defense, the Joint Chiefs of Staff, and General Chilton supported New START treaty reductions in deployed warheads, and limits on deployed as well as non-deployed strategic delivery vehicles (SDVs). New START treaty limits were validated by rigorous analysis in the NPR.

The administration intends to provide additional details for strategic forces under New START treaty in the report required by section 1251 of the 2010 National Defense Authorization Act (NDAA). This report will include a 10-year estimate of budgetary requirements for sustaining delivery platforms, the nuclear weapons stockpile, and the nuclear weapons complex.

NONSTRATEGIC NUCLEAR WEAPONS

The NPR concluded that as long as nuclear weapons exist, the United States should retain the capability to "extend" nuclear deterrence to allies and security partners. Its recommendations:

• Retain the capability to forward-deploy U.S. nuclear weapons on tactical fighter-bombers and dual-capable heavy bombers.

• Proceed with full scope life extension study and follow-on activities for the B–61 bomb to ensure first production begins in fiscal year 2017.

• Retire the nuclear sea-launched cruise missile (TLAM–N), as a redundant capability.

• Continue and expand consultations with allies and partners to address how to ensure the credibility and effectiveness of the U.S. extended deterrent.

• Decisions about the future of NATO nuclear weapons should be made through NATO processes, and not unilateral decisions.

NON-NUCLEAR LONG-RANGE STRIKE CAPABILITIES

The administration is currently examining the appropriate mix of non-nuclear long-range strike capabilities over the long-term. Today, these capabilities include conventional-only and dual-capable heavy bombers, and both sea-launched and air-launched conventional cruise missiles. Of these systems, only dual-capable bombers are accountable under New START treaty. NPR analysis concluded the United States should develop non-nuclear Prompt Global Strike capabilities, which are allowed under the New START treaty—and should focus such capabilities on regional threats while not undermining strategic stability with Russia or China.

TOWARD A SUSTAINABLE LONG-TERM APPROACH

A key premise of the 2010 NPR was that an effective national strategy for reducing nuclear dangers and sustaining the U.S. nuclear deterrent are long-term challenges that will require support from a long succession of U.S. administrations and Congresses. Laying the groundwork for a sustainable bipartisan consensus is a central purpose of this NPR.

Chairman LEVIN. All these statements will be made part of the record.

Next, General Chilton.

STATEMENT OF GEN. KEVIN P. CHILTON, USAF, COMMANDER, U.S. STRATEGIC COMMAND

General CHILTON. Thank you, Chairman Levin, Ranking Member McCain, and members of the committee. Thank you for the opportunity to meet with you today. It's a pleasure to join my distinguished colleagues here, in this panel.

STRATCOM was closely consulted throughout the development of the NPR and during negotiations on the New START treaty, and I look forward to discussing them with you today.

I would like to note at the outset how proud I am of the extraordinary work that STRATCOM performed in support of both of these efforts. We have an amazing team in Omaha, and their diligence, expertise, and tireless work continue to ensure our ability to deliver global security for America.

The NPR reflects a current assessment of the global security environment, one which is markedly, but not entirely, different from the one we faced in the Cold War. It recognizes the need to confront global threats, including nuclear dangers, through the twin prongs of deterrence and nonproliferation. The NPR includes several key recommendations that will serve to both sustain and strengthen STRATCOM's ability to conduct our deterrence mission.

Specifically, the NPR recommends moving forward with a number of nuclear enterprise sustainment projects, including strengthening our nuclear command-and-control structure; continuing development and deployment of our triad of delivery systems; maintaining a safe, secure, and effective stockpile; and revitalizing the NNSA's aging infrastructure.

America's triad of diverse and complementary delivery system provides unique synergies that make our deterrent highly credible and resilient in the face of a variety of potential technological and geopolitical developments. The NPR endorses DOD's efforts to explore future triad systems, specifically to extend the Minuteman III ICBM through 2030 and conduct studies now to inform decisions on a follow-on ICBM; to replace the *Ohio*-class ballistic missile submarine at the existing ships' end of life; and to study future long-range bomber capabilities.

It also supports moving forward with full-rate production for the W76–1 warhead for our submarine leg of the triad; full-scope non-nuclear, and, importantly, nuclear, life extension of the B–61 bomb to sustain its strategic deterrence and extended deterrence roles; and initiating studies to develop life-extension options for the W–78 ICBM warhead, including the possibility of also adapting the resulting warhead for SLBMs, and thereby reducing the number of warhead types.

Additionally, the NPR and the President's budget recognize the need to improve the Nation's nuclear infrastructure and address the challenges of human capital recruitment, development, and sustainment. These investments are required in order to confidently reduce the overall U.S. stockpile while sustaining the credibility of our nuclear stockpile, which is absolutely fundamental to nuclear deterrence.

Investments that revitalize the NNSA's aging infrastructure and intellectual capital strengthen our security with the facilities and the people needed to address technological surprises, geopolitical changes, and a range of cutting-edge national security challenges. The administration's request for a 13 percent increase in NNSA funding for fiscal year 2011 is an essential first step in this process.

With regard to the New START treaty, the nuclear enterprise remains, today and for the foreseeable future, the foundation of U.S.

deterrence strategy and defense posture. As the combatant command responsible for executing strategic deterrence operations, planning for nuclear operations, and advocating for nuclear capabilities, at STRATCOM we are keenly aware of how force posture and readiness changes can affect deterrence, assurance, and overall strategic stability. The New START treaty agreement, in my view, retains the military flexibility necessary to ensure each of these for the period of the treaty.

In support of the New START treaty negotiation effort, STRATCOM analyzed the required nuclear weapons and delivery vehicle force structure and posture to meet current guidance, and provided options for considerations by DOD. This rigorous approach, rooted in both deterrence strategy and assessment of potential adversary capabilities, supports both the agreed-upon reductions in the New START treaty and recommendations in the NPR.

In closing, every day STRATCOM remains focused on providing the President, and future presidents, with the options and flexibility needed for deterrence. Today, our deterrent is safe, secure, and effective; our forces are trained and ready; and STRATCOM is faithfully and fully carrying out its mission, each and every day. I am confident that the NPR and New START treaty outline an approach that continues to enable the men and women of STRATCOM to deliver global security for America, today and in the future.

Thank you again for the opportunity to testify before this committee, and I look forward to your questions.

[The prepared statement of General Chilton follows:]

PREPARED STATEMENT BY GEN. KEVIN P. CHILTON, USAF

INTRODUCTION

Chairman Levin, Ranking Member McCain, and members of the committee, thank you for the opportunity to meet with you today. U.S. Strategic Command (STRATCOM) was closely consulted throughout the development of the Nuclear Posture Review (NPR) and during negotiations on the New Strategic Arms Reduction Treaty (START), and I look forward to discussing them with you today. I would like to note at the outset how proud I am of the extraordinary work the Command performed in support of these efforts. We have an amazing team, and their diligence, expertise, and tireless work continue to ensure our ability to deliver global security for America.

NUCLEAR POSTURE REVIEW

The NPR reflects a current assessment of the global security environment, one which is markedly, but not entirely, different than the one we faced in the Cold War. It recognizes the need to confront global threats, including nuclear dangers, through the twin prongs of deterrence and nonproliferation. The NPR includes several key recommendations that will serve to both sustain and strengthen STRATCOM's ability to conduct our deterrence mission

Specifically, the NPR recommends moving forward with a number of nuclear enterprise sustainment projects, including strengthening our nuclear command and control structure; continuing development and deployment of our triad of delivery systems; maintaining a safe, secure, and effective stockpile; and revitalizing the National Nuclear Security Administration's aging infrastructure. America's triad of diverse and complementary delivery systems provides unique synergies that make our deterrent highly credible and resilient in the face of a variety of potential technological and geopolitical developments. The NPR endorses DOD efforts to explore future triad systems, specifically to extend the Minuteman III ICBM through 2030 and conduct studies now to inform decisions on a follow-on ICBM; to replace the *Ohio*-class SSBN at the existing ships' end of life; and to study future long-range bomber capabilities. It also supports moving forward with full-rate production for

the W76–1 warhead for our submarine leg of the triad; full-scope (nuclear and nonnuclear) life extension of the B61 bomb to sustain its strategic deterrence and extended deterrence roles; and initiating studies to develop life extension options for the W78 ICBM warhead, including the possibility of also adapting the resulting warhead for sea launched ballistic missiles and thereby reducing the number of warhead types.

Additionally, the NPR and the President's Budget recognize the need to improve the Nation's nuclear infrastructure and address the challenges of human capital recruitment, development, and sustainment. These investments are required in order to confidently reduce the overall U.S. stockpile while sustaining the credibility of our nuclear stockpile, which is fundamental to effective deterrence. Investments that revitalize NNSA's aging infrastructure and intellectual capital strengthen our security with the facilities and people needed to address technological surprises, geopolitical change, and a range of cutting-edge national security challenges. The administration's request for a 13 percent increase in NNSA funding for fiscal year 2011 is an important first step in this process.

NEW START TREATY

The nuclear enterprise remains, today and for the foreseeable future, the foundation of U.S. deterrence strategy and defense posture. As the combatant command responsible for executing strategic deterrence operations, planning for nuclear operations, and advocating for nuclear capabilities, we are keenly aware of how force posture and readiness changes can affect deterrence, assurance, and overall strategic stability. The New START treaty agreement, in my view, retains the military flexibility necessary to ensure each of these for the period of the treaty.

In support of the New START treaty negotiation effort, STRATCOM analyzed the required nuclear weapons and delivery vehicle force structure and posture to meet current guidance, and provided options for consideration by DOD. This rigorous approach, rooted in both deterrence strategy and assessment of potential adversary capabilities, supports both the agreed-upon reductions in New START treaty and recommendations in the NPR.

ASSESSMENT

In Prague last year, President Obama emphasized that, "As long as these weapons exist, the United States will maintain a safe, secure, and effective arsenal to deter any adversary, and guarantee that defense to our allies ... " Meeting these demanding goals means that a strong and enduring deterrence enterprise remains indispensable to U.S. and international security. Accordingly, STRATCOM's contributions to both the NPR and New START treaty focused on ensuring America's ability to continue to deter potential adversaries, assure our allies, and sustain strategic stability for as long as nuclear weapons exist. Based on our analysis and through continued discussions with Department of Defense leadership, my view is that these documents and associated budgetary investments continue to support these deterrence requirements, and that the New START treaty agreement warhead and platform numbers provide appropriate military flexibility.

Finally, to ensure all necessary elements of a safe, secure, and reliable deterrence enterprise, including weapons, delivery systems, warning and communications capabilities, and their supporting human capital and technological infrastructures, we must make sustained investments to adequately preserve our capabilities for the foreseeable future. In order to sustain the deterrent and implement the NPR, we must make long-term investments that begin with several increases outlined in the President's fiscal year 2011 budget. These investments are not only important—they are essential.

CLOSING

Every day, STRATCOM remains focused on providing the President and future presidents with the options and flexibility needed to deter and respond to threats to our Nation and its allies. Today, our deterrent is safe, secure, and effective; our forces are trained and ready; and the Command is faithfully and fully carrying out its mission each and every day. I am confident that the NPR and New START treaty outline an approach that continues to enable the men and women of STRATCOM to deliver global security for America today and in the future. Thank you again for the opportunity to testify before this committee.

Chairman LEVIN. Thank you so much, General Chilton.

Secretary Tauscher, it's always great to see you back in a congressional setting. It just warms my heart to see you here, and we hope you're happy in your relatively new home. I suppose it's not so new anymore to you.

Ms. TAUSCHER. Well, it's been almost a year, Senator. But, thank you very much, Chairman Levin. It's an honor to be back here.

Chairman LEVIN. Secretary Tauscher.

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

Ms. TAUSCHER. Chairman Levin, Ranking Member McCain, and distinguished members of the Senate Armed Services Committee, thank you for the opportunity to discuss DOS's role in protecting the United States and our allies from today's most pressing threats. I am honored to appear today with my distinguished colleagues.

Last year, President Obama outlined several steps to strengthen our national security by reducing the role and numbers of nuclear weapons. In the past months we have advanced that agenda by releasing the NPR, signing the New START treaty, and hosting the Nuclear Security Summit. Let me say a few words about the New START treaty and missile defenses.

I spent much of March in Geneva, to help conclude the New START treaty. It will enhance our security by reducing and limiting the U.S. and Russian strategic nuclear forces. Those limits were guided by rigorous analysis in the NPR.

The new treaty will promote strategic stability by ensuring transparency and predictability. It will advance our nonproliferation agenda by demonstrating that we are meeting our NPT obligations.

The New START treaty does not constrain U.S. missile defense programs. The United States will continue to improve our missile defenses, as needed, to defend the U.S. Homeland, our deployed forces, and our allies and partners.

Russia's unilateral statement on missile defense is not legally binding. It won't constrain U.S. missile defense programs. As the administration's Ballistic Missile Defense (BMD) Review and our budget plans make clear, we will deploy the most effective missile defense systems possible, and the New START treaty does not impose any additional cost or inconvenience to those efforts.

At this time, Mr. Chairman, I would ask permission to submit, for the record, the U.S. and Russian unilateral statements on missile defenses associated with the New START treaty.

Chairman LEVIN. That will be made part of the record.

[The information referred to follows:]

United States Department of State

Bureau of Verification, Compliance, and Implementation

Washington, D.C. 20520

April 7, 2010

Statement by the United States of America Concerning Missile Defense

The United States of America takes note of the Statement on Missile Defense by the Russian Federation. The United States missile defense systems are not intended to affect the strategic balance with Russia. The United States missile defense systems would be employed to defend the United States against limited missile launches, and to defend its deployed forces, allies and partners against regional threats. The United States intends to continue improving and deploying its missile defense systems in order to defend itself against limited attack and as part of our collaborative approach to strengthening stability in key regions.

OFFICIAL TRANSLATION

Statement of the Russian Federation Concerning Missile Defense

The Treaty between the Russian Federation and the United States of America on Measures for the Further Reduction and Limitation of Strategic Offensive Arms signed at Prague on April 8, 2010, may be effective and viable only in conditions where there is no qualitative or quantitative build-up in the missile defense system capabilities of the United States of America. Consequently, the extraordinary events referred to in Article XIV of the Treaty also include a build-up in the missile defense system capabilities of the United States of America such that it would give rise to a threat to the strategic nuclear force potential of the Russian Federation.

Ms. TAUSCHER. Thank you, sir.

In addition to reaffirming our commitment to missile defenses, the NPR also supports the goal of bolstering nonproliferation. We want to give more incentive to non-nuclear states not to seek or acquire nuclear weapons. So, we updated our Negative Security Assurance to make it clear that non-nuclear-weapon state parties to the NPT who comply with their nuclear nonproliferation obligations, do not have to fear a U.S. nuclear attack.

I want to clarify what this new Negative Security Assurance does, and does not, do. For non-nuclear-weapon states to the NPT, in compliance with their nuclear nonproliferation commitments, we are removing only the possibility of nuclear retaliation. For such

states, we retain the prospect of using devastating conventional force to deter and respond to any aggression, especially if they were to use chemical or biological weapons. No one should doubt our resolve to hold accountable those responsible for such aggression, whether those giving the orders or carrying them out.

Deterrence depends on the credibility of response. A massive and potential conventional response to non-nuclear aggression is highly credible. We also reserve the right to readjust the Negative Security Assurance, if warranted, by the evolution and proliferation of biological weapons and their threat. The updated Negative Security Assurance does not alter our current policy on the use of nuclear weapons toward nuclear-armed states or non-nuclear-weapon states not in compliance with the NPT and their nuclear nonproliferation obligations, such as North Korea and Iran. In other words, for this group of states, we have retained calculated ambiguity.

But, I want to stress that the NPR states that the United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.

Nuclear weapons have not been used in nearly 65 years. The bar for their use is high, and this NPR recognizes that fact. It is in the U.S. interest, and that of all other nations, that the long record of nuclear non-use be extended forever.

Let me close by noting that former Secretaries of Defense William Perry and Jim Schlesinger, the leaders of the Bipartisan Strategic Posture Commission, wrote, recently, that the NPR approach on declaratory policy was sensible. They concluded that the NPR provides a comprehensive and pragmatic plan for reducing nuclear risk to the United States.

Mr. Chairman and Ranking Member McCain, I look forward to working with this committee and the Senate on these important matters, and I look forward to answering any questions you might have.

[The prepared statement of Ms. Tauscher follows:]

PREPARED STATEMENT BY HON. ELLEN O. TAUSCHER

Chairman Levin, Ranking Member McCain, and distinguished members of the Senate Armed Services Committee, thank you for the opportunity to discuss the State Department's shared role in protecting the United States and our allies from today's most pressing threats. I am honored to appear with my colleagues Jim Miller, Tom D'Agostino, and General Chilton.

President Obama outlined several concrete steps last year in a speech in Prague to strengthen our national security by reducing the role and numbers of nuclear weapons.

In the past few weeks, the Obama administration has advanced some of those goals even as we reaffirm our commitment to maintain a safe, secure, and effective deterrent to protect the United States and our allies so long as nuclear weapons exist.

Last week, the President brought together 46 world leaders to advance his goal of securing all vulnerable nuclear material over the next 4 years. At the Nuclear Security Summit, President Obama worked with allies and partners to help secure vulnerable nuclear material and prevent nuclear smuggling.

Earlier this month, President Obama and President Medvedev signed the New START treaty, which upon entry into force will make verifiable and mutual cuts in the U.S. and Russian strategic nuclear arsenals.

Finally, the Obama administration issued the Nuclear Posture Review, which we are going to discuss today.

This review constitutes a clear break from past reviews, both in terms of process and scope. The administration took a broad, whole-of-government approach to addressing our nuclear policy and identifying concrete steps to enhance our national security.

The Department of Defense led the Nuclear Posture Review (NPR), but for the first time the Department of State fully participated in discussing the issues and making recommendations to the President.

For the first time, the NPR is an unclassified document. There is no classified version.

I want to address the diplomatic implications of the Nuclear Posture Review as well as the rationale behind some of the most discussed issues, including the updated Negative Security Assurance. But I first want to say a few words about the New START treaty and how it relates to the NPR.

The United States and Russia can safely reduce our nuclear forces because the threat environment has changed. The relationship between the United States and Russia has improved and today's most pressing nuclear threats come from terrorists and additional countries seeking nuclear weapons. A large-scale nuclear attack is no longer the most pressing threat. The conclusions of our recent NPR reflect that reality.

I spent much of March at the table in Geneva to help conclude the New START treaty. It will improve U.S. and international security by reducing and limiting U.S. and Russian strategic nuclear forces. It will promote strategic stability by ensuring transparency and predictability regarding U.S. and Russian strategic nuclear forces over the life of the Treaty. It will advance our nuclear nonproliferation agenda.

The U.S. push for meaningful, lower limits on deployed warheads and their delivery vehicles and launchers was guided by rigorous analysis in the early months of the NPR. The Treaty's verification regime will provide each side confidence that the other is upholding its obligations. The new Treaty gives our military the flexibility to structure, deploy, and maintain our forces in ways that best meet U.S. national security interests.

The Treaty does not constrain U.S. missile defense programs or long-range conventional strike capabilities.

The United States will continue to improve our missile defenses, as needed, to defend the U.S. homeland, our deployed forces, and our allies and partners. Russia's unilateral statement on missile defense is not an integral part of the New START treaty. It's not legally binding. It won't constrain U.S. missile defense programs. As the administration's Ballistic Missile Defense Review and our budget plans make clear, we will deploy the most effective missile defenses possible, and the New START treaty does not impose any additional cost or inconvenience to those efforts.

Of course, under the new Treaty, the United States will continue to maintain a safe, secure, and effective strategic nuclear force to protect ourselves and our allies and partners.

The President also set forth a goal to bolster our nonproliferation efforts and the NPR identifies many of the steps this administration is taking and will pursue to achieve that objective. One of the ways to do that is to show non-nuclear weapon states that there are security benefits to complying with the Nuclear Nonproliferation Treaty (NPT) and other nonproliferation obligations.

We want to reinforce and enhance the global nonproliferation regime and to give greater incentives to non-nuclear states not to seek or acquire nuclear weapons. To do this, we have updated our Negative Security Assurance to make it clear that non-nuclear weapon states party to the NPT who abide by their nuclear nonproliferation obligations do not have to fear a nuclear attack from the United States.

Some have suggested that the new policy might lead some states to be less fearful of the consequences of using chemical and biological weapons against us.

Others have alleged that the new policy takes options off of the table to deal with states like Iran or North Korea, as well as nuclear-armed states.

Let me address both starting with the first critique. For non-nuclear-weapon states-parties to the NPT in compliance with their nuclear nonproliferation commitments, we are removing only the possibility of nuclear retaliation. We retain the option and willingness to use devastating conventional force to deter and respond to any aggression, especially with chemical or biological weapons, against the United States, our forces, or our allies and partners by such states.

No one should doubt the resolve and conventional military capabilities of the United States to respond to such aggression with devastating effect and to hold accountable those responsible whether national leaders giving the orders or military officers carrying them out. Deterrence depends on the credibility of a possible response. A massive and potent U.S. conventional response to such non-nuclear aggression is highly credible. By reducing unnecessary ambiguity in our declaratory

policy, we lose little if nothing in terms of our capabilities or our deterrent posture, and gain a critical tool in pursuing a more robust and effective nonproliferation system.

Furthermore, we prudently reserve the right to readjust the Negative Security Assurance if warranted by the future evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.

Second, the updated Negative Security Assurance does not alter our current policy on the use of nuclear weapons toward nuclear-armed states or states not party to the NPT or not in compliance with their nuclear nonproliferation obligations, such as North Korea and Iran. In other words, for this group of states, we have left all options on the table.

I want to stress that our updated assurance does not suggest an increased threat of using nuclear weapons against countries not covered by this pledge. In the NPR, we state the United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.

Nevertheless, there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional, chemical, or biological attack against the United States or its allies and partners. We therefore are not prepared to adopt a policy declaring that the "sole purpose" of nuclear weapons is to deter nuclear attack. But we will work toward creating the conditions that would enable such a policy to be safely adopted. There is no timetable for such a step and, as President Obama has said, while we move forward on our vision of a world without nuclear weapons, we must confront the world as it is.

Nuclear weapons have not been used in nearly 65 years. The bar for their use is high and this NPR recognizes and seeks to reinforce that fact. It is in the U.S. interest and that of all other nations that the long record of nuclear non-use be extended forever.

Let me close on this issue of declaratory policy by noting that former Secretaries of Defense William Perry and Jim Schlesinger, the leaders of the bipartisan Strategic Posture Commission, said the NPR approach was "a sensible variation on a theme that the United States should support nonproliferation while preserving deterrence for itself and its allies."

In general, they noted that the NPR was "compatible" with their commission's recommendations and that the review provides a "comprehensive and pragmatic plan for reducing nuclear risks to the United States."

Our commitment to defend our national security interests and our allies and partners in Europe, the Pacific and elsewhere has never been stronger.

In this regard, the NPR reaffirms the principle of close cooperation with our allies around the world and maintains our firm commitment to mutual security.

We will work with our partners to reinforce regional security architectures, such as missile defenses and other conventional military capabilities.

I want to repeat what I said earlier, the United States will continue to maintain a safe, secure, and effective nuclear deterrent for ourselves and our allies so long as these weapons exist anywhere in the world.

Mr. Chairman and Ranking Member McCain, I look forward to working with this committee and the Senate on these important matters.

Thank you for holding this important hearing and I look forward to any questions you might have for me.

Chairman LEVIN. Thank you so much, Secretary Tauscher.

Now, Administrator D'Agostino.

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

Mr. D'AGOSTINO. Thank you, Mr. Chairman, and members of the committee.

I'm very pleased to appear before you today with such a distinguished panel as my colleagues here, General Chilton, the Honorable Ellen Tauscher, and Dr. Jim Miller. My remarks will focus on the DOE's equities included in the NPR.

NNSA is actively engaged in direct support of the first NPR objective, preventing nuclear proliferation and nuclear terrorism. The most important steps we can take to keep terrorists from devel-

oping and using an improvised nuclear device or radiological "dirty bomb" is to prevent them from acquiring nuclear material. This job is not new to the NNSA. We have led this effort, over several years, and now we are accelerating and broadening the scope of these efforts.

Current NNSA programs include securing nuclear materials, technology, and expertise, including the most vulnerable nuclear materials worldwide within 4 years; disposing of excess U.S. and international fissile materials; strengthening the international safeguard system by developing new safeguards, technologies, expertise, policies, concepts, and partnerships; developing an active nuclear and radiological security dialogue and cooperation with key domestic and international partners; and developing highly sensitive and wide-area nuclear material detection technologies.

The NNSA is also actively engaged in direct support of the fifth NPR objective: sustaining a safe, secure, and effective nuclear arsenal. For more than 65 years, our program has been able to do just that; assure the Nation that the nuclear weapons stockpile is safe, secure, and effective, and meeting the nuclear deterrent needs of the United States.

To that end, the United States will not conduct underground nuclear testing; we will not develop new nuclear warheads for new missions; we will study options for ensuring the safety, security, and effectiveness of the nuclear warheads, on a case-by-case basis.

Applying these principles, the NNSA will fully fund the ongoing life-extension program for the W76 submarine-based warhead, and the full-scope life-extension study and follow-on activities for the B–61 bomb. We will participate with the Nuclear Weapons Council, as well, on a new study of life-extension options for the W–78 ICBM warhead.

The NPR also concluded that the NNSA needed to recapitalize the aging infrastructure and to renew our human capital: the critical cadre of scientific, technical, and engineering experts who carry out our stockpile management work and support other vital nuclear security missions. To that end, the NNSA will strengthen the science, technology, and engineering base, including supporting computational and experimental capabilities needed for weapon-system life extensions, the weapon surety work, certification without nuclear testing, and providing annual stockpile weapon surveillance.

The NNSA will also fund two key research—or, two key facility projects, the Chemistry and Metallurgy Research Replacement Project at Los Alamos National Laboratory, for work on plutonium to replace the existing 58-year-old facility, and a Uranium Processing Facility at the Y–12 Plant in Oak Ridge, TN.

The NPR also sustains the strategic triad. This drives the recent DOD decision to recapitalize the sea-based strategic deterrent. The *Ohio*-class ballistic missile submarines, the most survivable leg of our Nation's deterrent, are reaching the end of their operational life. In support of the NPR, the Naval Reactors Program will continue reactor plant design and development efforts for the procurement of long-lead reactor plant components, in support of Navy procurement of the first *Ohio*-class submarine replacement.

Responsible stockpile management requires not only the supporting infrastructure, but also a highly capable workforce with the specialized skills needed to sustain the deterrent and to support the President's nuclear security agenda.

The NPR noted the importance of recruiting and retaining the human capital needed in the NNSA for the nuclear security missions. In order to succeed in these missions, we need to be able to recruit and retain the next generation of nuclear security professionals, because our highly specialized workforce is our greatest asset.

The President has now clearly outlined the importance of nuclear issues for our national security and of keeping the U.S. nuclear deterrent safe, secure, and effective for the foreseeable future. The administration's commitment to a clear and long-term plan for managing the stockpile, and its comprehensive nuclear security agenda, ensures the scientists and engineers of tomorrow will have the opportunity to engage in challenging research and development activities.

I want to share with the committee a statement from our national laboratory directors that provides their view on the NPR. The directors universally state that:

> "We believe the approach outlined in the NPR, which excludes further nuclear testing and includes the consideration of the full range of life-extension options, provides the necessary technical flexibility to manage the nuclear stockpile into the future with an acceptable level of risk. We are reassured that a key component of the NPR is the recognition of the importance of supporting a modern physical infrastructure comprised of the national security laboratories, and a complex of supporting facilities, and a highly capable workforce."

This NPR is an important step towards adopting a 21st century approach to nuclear weapons and a broader array of nuclear security issues. This path forward will require a long-term commitment to provide the support and the resources necessary to sustain our deterrent and enable future arms reductions.

Finally, our approach towards maintaining the stockpile described in the NPR is wholly consistent with, and was informed by, the Stockpile Management Program principles passed into law through the 2010 NDAA.

With the committee's endorsement, the nuclear security enterprise will have the science, technology, and engineering expertise to manage the stockpile and to also carry out the full range of nuclear security missions, which include nuclear nonproliferation, nuclear counterterrorism, and nuclear forensics, among other activities.

Secretary Chu recently stated that DOE must discover and deliver those solutions to advance our national priorities. The NNSA and our nuclear security enterprise are poised to provide these solutions.

I'll be pleased to respond to your questions. Thank you.

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

PREPARED STATEMENT BY HON. THOMAS P. D'AGOSTINO

Thank you Mr. Chairman and members of the committee. I am pleased to appear before you to discuss the Department of Energy's (DOE) key elements included in the administration's Nuclear Posture Review, released on April 6, 2010.

The Nuclear Posture Review (NPR) reaffirms President Obama's commitment to providing DOE and its National Nuclear Security Administration (NNSA) the resources required to support the President's nuclear security agenda and maintain the safety, security and effectiveness of the U.S. nuclear deterrent without underground testing. The NPR reflects the fact that protecting our Nation's nuclear security is an enduring Government-wide responsibility. I am proud of the role the DOE played in what was the first, truly interagency NPR in our Nation's history.

The NPR lays out five key objectives that provide a comprehensive path forward for implementing the President's nuclear security agenda for reducing nuclear dangers and pursuing the peace and security of a world without nuclear weapons. The five objectives are:

1. Preventing nuclear proliferation and nuclear terrorism;
2. Reducing the role of nuclear weapons;
3. Maintaining strategic deterrence and stability at reduced nuclear force levels;
4. Strengthening regional deterrence and reassurance of U.S. allies and partners; and,
5. Sustaining a safe, secure, and effective nuclear arsenal.

PREVENTING NUCLEAR PROLIFERATION AND TERRORISM

DOE and the NNSA are actively engaged in direct support of the first objective, "preventing nuclear proliferation and nuclear terrorism." The Department's fiscal year 2011 budget request includes a nearly 26 percent increase in funding for NNSA's nuclear nonproliferation programs. These programs encompass the first line of defense, second line of defense, and additional programs aimed at securing vulnerable nuclear materials within 4 years and providing key technical support to prevent proliferation in other nuclear arenas. The most important thing that can be done to keep terrorists from developing and using an improvised nuclear device or a radiological dispersion device (an RDD or a so-called "dirty bomb") is to prevent them from acquiring nuclear material. The NNSA is accelerating and broadening the scope of its efforts to improve the security of nuclear materials in the United States and globally to achieve the President's priorities first articulated in Prague. Current NNSA programs include:

- Securing nuclear materials, technology, and expertise, including the most vulnerable nuclear materials, worldwide within 4 years and disposition of excess U.S. and international fissile materials;
- Working with the Office of Nuclear Energy to support the development of a new framework for peaceful nuclear energy to promote civil nuclear power and nonproliferation objectives;
- Strengthening the international safeguards system by developing new safeguards technologies, expertise, policies, concepts, and partnerships;
- Developing an active nuclear and radiological security dialog and cooperation with key domestic and international partners; and,
- Developing highly sensitive and wide-area nuclear materials detection technology.

NNSA programs are also supporting the President's arms control and nonproliferation agenda by using the technical capabilities within the Nuclear Security Enterprise to demonstrate the technical ability to support, monitor, and comply with the Comprehensive Nuclear Test Ban Treaty (CTBT), the Fissile Material Cutoff Treaty, and any follow-on arms control requirements.

MANAGING THE U.S. NUCLEAR STOCKPILE

DOE and NNSA are also actively engaged in direct support of the fifth NPR objective, "sustaining a safe, secure, and effective nuclear arsenal."

The need to maintain the safety, security and effectiveness of an aging stockpile without resuming nuclear testing has been a bipartisan national policy for nearly 20 years under both Democratic and Republican administrations. As the President said in Prague, we will sustain a safe, secure, and effective nuclear arsenal as long as nuclear weapons exist.

This NPR reflects that commitment and our budget request, if approved, would provide the resources required to make that possible. The NPR is based on several key principles that will guide future U.S. decisions on stockpile management.

- The United States will not conduct nuclear testing, and will seek ratification and entry into force of the CTBT.
- The United States will not develop new nuclear warheads. The NPR makes clear that the United States will only use nuclear components based on previously tested designs, and will not pursue new military missions or provide for new military capabilities for our stockpile.
- The United States will study options for ensuring the safety, security, and effectiveness of nuclear warheads on a case-by-case basis, consistent with the congressionally-mandated Stockpile Management Program. The full range of life extension program (LEP) approaches will be considered: refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components.
- Finally, in any decision to proceed to engineering development for warhead LEPs, the United States will give strong preference to options for refurbishment or reuse. The NPR makes clear that replacement of nuclear components would be undertaken only if critical Stockpile Management Program goals could not otherwise be met, and if specifically authorized by the President and approved by Congress.

Using these principles, the United States will extend the life of nuclear warheads required for the smaller force structure identified under the follow-on START agreement. Consistent with this approach, the NPR recommended that:

- The administration fully fund the ongoing LEP for the W76 submarine-based warhead for a 2017 completion, and the full scope LEP study and follow-on activities for the B61 bomb to ensure first production begins in 2017.
- The Nuclear Weapons Council initiate a study in 2010 of LEP options for the W78 ICBM warhead to be conducted jointly by the NNSA and the Department of Defense (DOD). This study will consider, as all future LEP studies will, the possibility of using the resulting warhead also on multiple platforms in order to reduce the number of warhead types.

The NNSA, in close coordination with the DoD, will provide a new stockpile stewardship and management plan to Congress, consistent with the increases in infrastructure investment requested in the President's fiscal year 2011 budget request. A more robust and modernized infrastructure will enable the United States to shift away from retaining large numbers of nondeployed warheads as a technical hedge, allowing additional reductions in the U.S. stockpile of nondeployed nuclear weapons.

This consolidated approach will ensure high confidence in the technical performance of warheads retained in the stockpile. It will guarantee that their safety and security are aligned with 21st century requirements (and technical capabilities). This approach sets a high standard for the safety and security of U.S. nuclear weapons and, in support of nonproliferation goals, positions the United States to encourage other nations to maintain the highest levels of surety for their nuclear stockpiles.

These activities are also consistent with the principles of the Stockpile Management Program outlined by Congress in the National Defense Authorization Act for Fiscal Year 2010.

RECAPITALIZING CRITICAL INFRASTRUCTURE AND RENEWING HUMAN CAPITAL

The NPR concluded that DOE needed increased funding to recapitalize the aging infrastructure used to support the stockpile and conduct a full range of nuclear security missions, and to renew our human capital—the critical cadre of scientific, technical, and engineering experts who underpin our stockpile management work and support our nuclear nonproliferation and counterterrorism missions.

In order to sustain a safe, secure, and effective U.S. nuclear stockpile as long as nuclear weapons exist, the United States must possess a modern physical infrastructure—comprised of the national security laboratories and a complex of supporting facilities.

The NPR concluded that the following key investments were required to sustain a safe, secure, and effective nuclear arsenal:

- Strengthening the science, technology, and engineering base needed for conducting weapon system LEPs, maturing advanced technologies to increase weapons surety, qualification of weapon components and certifying weapons without nuclear testing, and providing annual stockpile assessments through weapons surveillance. This includes developing and sustaining high quality scientific staff and supporting computational and experimental capabilities.

• Funding the Chemistry and Metallurgy Research Replacement Project at Los Alamos National Laboratory to replace the existing 50-year old Chemistry and Metallurgy Research facility by 2021.

• Developing a new Uranium Processing Facility at the Y–12 Plant in Oak Ridge, TN, to come on line for production operations by 2021. Without an ability to produce uranium components, any plan to sustain the stockpile, as well as support for our naval nuclear propulsion programs, will come to a halt.

More broadly, the administration supports the needed recapitalization of the nuclear infrastructure through fully funding the NNSA. These nuclear security facilities will be sized to support the requirements of the Stockpile Stewardship Program mandated by Congress and to meet the multiple requirements of dismantling warheads and eliminating material no longer needed for defense purposes, conducting technical surveillance, implementing life extension plans, and supporting naval propulsion requirements. Increased investments in the nuclear security enterprise are needed to ensure the long-term safety, security, and effectiveness of our nuclear arsenal and to support the full range of nuclear security work to include nonproliferation, nuclear forensics, nuclear counterterrorism, emergency management, intelligence analysis, and treaty verification.

Responsible stockpile management requires not only infrastructure, but also a highly capable workforce with the specialized skills needed to sustain the nuclear deterrent and to support the President's overall nuclear security agenda. Like our physical infrastructure, over the last decade our human capital base has been underfunded and underdeveloped. The decrease in funding for the science and engineering basis of stockpile assessment and management meant that technical issues might remain unresolved and the best and brightest scientists were therefore less attracted to the endeavor. A number of leaders noted that a national consensus on the approach to sustaining warheads, and adequate funding of those challenges, was essential to sustaining our nuclear technical capabilities. The cumulative loss of focus, expertise, and excellence on nuclear matters in the United States remains a significant challenge, but one that we can now address.

The President has now clearly outlined the importance of nuclear issues for our national security, and the importance of keeping the U.S. nuclear deterrent safe, secure, and effective at the minimum numbers required. Further, the administration's commitment to a clear and long-term plan for managing the stockpile ensures the scientists and engineers of tomorrow will have the opportunity to engage in challenging research and development activities that are essential to their recruitment and retention.

A modern nuclear security infrastructure and highly skilled workforce are also essential to arms control and nonproliferation objectives. For example, by certifying the reliability of each weapon type we retain, the United States can credibly assure non-nuclear allies and partners they need not build their own, while we seek greater stockpile reductions than otherwise possible. We also enhance our ability to assess and render safe potential terrorist nuclear devices and support other national security initiatives, such as nuclear forensics and attribution, and to understand the technical challenges associated with verifying ever deeper arms control reductions, which is critical for managing risks on the path to zero.

RECAPITALIZING THE SEA-BASED STRATEGIC DETERRENT

The NPR sustains the Strategic Triad. This drives the recent DOD decision to recapitalize the sea-based strategic deterrent. The *Ohio*-class ballistic submarines, the most survivable leg of the Nation's strategic deterrent, are reaching the end of their operational life. In support of the NPR, the Naval Reactors program will continue reactor plant design and development efforts begun in 2010 for procurement of long-lead reactor plant components in 2017, in support of Navy procurement of the first *Ohio*-class submarine replacement in 2019.

CONCLUSION

We are already implementing the principles in the NPR. For example, the President's fiscal year 2011 budget request for NNSA includes $11.2 billion (a 13 percent increase from 2010) to manage the stockpile, recapitalize the NNSA infrastructure, and support the full range of nuclear security missions—including NNSA's role in preventing nuclear proliferation, powering the nuclear navy, and promoting effective nuclear counterterrorism capabilities.

This NPR is an important step toward ending Cold War thinking and adopting a 21st century approach to nuclear weapons and nuclear security issues. The administration's substantial fiscal year 2011 budget request begins the turnaround to this

NPR path. With the committee's help, we can sustain our nuclear deterrent and enable future arms reductions.

Chairman LEVIN. Thank you very much, Mr. D'Agostino.

Let's try an 8-minute first round.

I want to thank Senator Ben Nelson, by the way, for taking over at around 10:30 a.m., when I have to leave. I very much appreciate that, Senator Nelson.

General, let me start with you. You indicated in your testimony that STRATCOM was a full participant in the NPR process, and that you're satisfied with the outcome. When STRATCOM performed the analysis to support the NPR, you also said that the force structure decisions were based on existing nuclear guidance, which has existed since 2008. If I understand that statement correctly, you're implying that the force structure in the NPR is more than enough to meet future requirements, because, in part, it meets current requirements. Is that correct? Do I have that straight?

General CHILTON. Senator, as we got into the last-year time period and realized with the NPR being due, the Quadrennial Defense Review being due, START expiring, we knew we needed to fix the playing field on how we could proceed forward on this. Dr. Miller can add to this, as well. So, one of the things that we decided we needed to fix, as we went forward with START negotiations, in particular, was what we were going to base our negotiating strategy on. What guidance should we assume is applicable to this? It was decided, rather than work through, which is normally a year-long process to develop new strategies and guidance, we would just fix that for our analysis of the force structure for the START negotiations. That's how we moved forward.

That is the context of my statement, there, is that, it was more about how we went forward. Yes, I am comfortable with the force structure we have. I believe it is adequate for the mission that we've been given, and is consistent with NPR.

The only assumptions we had to make with regard to the new NPR, which was, of course, in development at the time, was that there would be no request for an increase in forces. There was also an assumption that I think is valid, that the Russians, in the post-negotiation time period, would be compliant with the treaty, should they ratify that, and that we would, too. Those were really our going-in positions.

Chairman LEVIN. During the Cold War, the force structure was based largely on the number of targets and the certainty required to hold those targets at risk, and to eliminate the targets. Without a specific adversary, I understand that the philosophy has changed so that the force structure is based on the capabilities to address types of targets rather than specific targets. If that is accurate, does the change in philosophy provide you with the confidence that you can go to lower levels and still meet any new nuclear guidance policy?

General CHILTON. Mr. Chairman, a couple of points. One, parity was a driving factor at one point during the Cold War, which is why we still had continuous growth in stockpiles back and forth between the Soviet Union and the United States, at the time. It

wasn't so much driven by specific targets as it was how big your force structure was. We've steered away from that, for sure.

One thing that is similar is that what STRATCOM—then Strategic Air Command, in the Cold War—was told to plan against, was types of categories of targets, and then the Command would plan against and present the results of those efforts up for approval. That process is pretty much still in place. Again, we're not told specifically what to do. We're told categories, as you described, for our deterrence, we develop a plan, and then push that forward for Secretary of Defense approval.

Chairman LEVIN. Let me ask both Dr. Miller and you, General Chilton, the NPR does not identify how the 800 strategic nuclear systems are going to be allocated amongst the legs of the triad—the 800 coming from the New START treaty. What's the process for determining how many nuclear-capable bombers, how many SLBMs, and how many land-based ICBMs are going to be in the force structure? Let me start with you, Dr. Miller, when's this process going to be completed?

Dr. MILLER. Mr. Chairman, this process began during the NPR, and we looked at a wide range of alternative force structures. It will be completed shortly, as we provide the Section 1251 report to Congress. Along with that, we'll provide a recommended baseline force structure.

Chairman LEVIN. When is that?

Dr. MILLER. It will be provided, sir, with the submission of the New START treaty, hopefully in the next several weeks.

Chairman LEVIN. Okay.

Dr. MILLER. If I could add, the treaty provides and allows the freedom to mix, for both sides, their strategic forces, under these limits. Our intention would be to provide a baseline plan, understanding that it could be modified later, if there were a challenge with one leg of the triad or another.

Mr. Chairman, if I could add very briefly, with respect to the question of guidance, during the NPR we looked at a very wide range of possible nuclear scenarios and found that the force structure and the numbers that had become part of the New START treaty, provided a very robust capability across that wide range. We are in the process of reviewing and revising classified guidance, and are confident that this force structure will provide more than enough capability for that revised guidance.

Chairman LEVIN. Do you agree with that, General?

General CHILTON. I do, Mr. Chairman.

Chairman LEVIN. Okay.

Secretary Tauscher, one of the key objectives of the NPR is to strengthen the NPT regime. Now, the review conference for that treaty is going to be held in May, with a commitment to support the regional allies and partners, as this NPR does, with the reductions in deployed nuclear forces, and increased emphasis on nonproliferation. Do you believe that the NPR will have a positive effect on the review conference?

Ms. TAUSCHER. Yes, Mr. Chairman, we do. The President has made the NPT a central pillar in his nonproliferation agenda, and strengthening the NPT, both through the review conference and ongoing efforts, is a very important opportunity. Both the Negative

Security Assurance in the NPR, which makes very clear the exemption for non-nuclear-weapon states that are in compliance with the NPT obligations. This, once again, not only makes clear what our position is on the exemption, but it also strengthens the NPT and countries' acsession to it and adherence to it. What it says is that, if you are a member of the NPT, and are clearly in compliance, then you have this exemption.

I think that the President's agenda, when it comes to the NPT review, is one—because it's a consensus-driven exercise, for over a month in New York at the U.N., with hundreds of countries coming, there are many different parts of this that we want to work collaboratively. But, at the same time, it's not just the review conference, but an ongoing effort, working with key partners, to make sure that the NPT is strengthened, and that there is great adherence to it.

Chairman LEVIN. There are also commitments, are there not, in the NPT for the nuclear powers to reduce their nuclear inventories? Is that not correct?

Ms. TAUSCHER. Yes, sir. That's Article 6 of the NPT.

There are three pillars to the NPT: peaceful uses, disarmament, and nonproliferation. We believe, in the United States, certainly with the New START treaty and other efforts that we have made unilaterally, that we have made a strong commitment to Article 6 of the NPT. You won't be surprised to find out that not everyone believes that, but we strongly assert that we, certainly with Russia, because we have 90 percent of the weapons in the world are reducing those numbers, and we are working very seriously to maintain a very strong, safe, and effective stockpile.

Chairman LEVIN. If we expect others to maintain their commitments to the NPT, it is important, won't you agree, that we keep our commitments, as well, relative to reductions?

Ms. TAUSCHER. As usual, Mr. Chairman, there are issues like Iran, which are a significant challenge for us, and have been for various administrations. The Iranians' lack of commitment to the NPT and their abuse of U.N. Security Council resolutions cause us to look for arrows in our quiver that will remind people of these obligations. Certainly, the NPT is the best example we have of Iranian noncompliance.

Chairman LEVIN. Okay, thank you.

Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

Dr. Miller, a lot of us have been very unhappy about the fact that there is no cohesive—or, coherent policy towards the Iranian nuclear buildup and their inexorable movement towards the acquisition of nuclear weapons capability, which is the view of all intelligence agencies throughout the world. At last week's hearing on Iran, Secretary Flournoy and General Cartwright said, in direct response to questions, that all options regarding Iran were on the table.

Yesterday, in Singapore, Under Secretary of Defense for Policy, Secretary Michéle Flournoy said during a press briefing, "Military force is an option of last resort;" Michéle Flournoy said, "it's off the table in the near term." Now, which is it? Which is it, Dr. Miller? Is it off the table for the near-term, as Secretary Flournoy says, in

direct contradiction to her testimony before this committee? What is the near-term, if it's off the table in the near-term? Do you think the American people have a right to know that?

Dr. MILLER. Senator McCain, I had the opportunity to talk to Under Secretary Flournoy yesterday, and I have not seen a transcript, nor has she, to confirm which is the case. But, she was either misquoted or misspoke; the administration's policy, as Under Secretary Flournoy said before, is that all options are on the table.

The administration has also made clear that the strong preference is to work through diplomatic channels, and now as we move to the so-called "pressure track," to apply sanctions to Iran so that they will change their policy.

But I will, again, state for the record, and on behalf of the administration, that all options are on the table, sir.

Senator MCCAIN. So, now we're treated to our Under Secretary of Defense for Policy going to Singapore and saying "It's off the table in the near term." No wonder our friends are dispirited and our enemies are encouraged.

Secretary Tauscher, why did the decision made concerning the elimination of the nuclear option in cases of nations that are in compliance with the NPT? What was the rationale behind that reversal of what has been a national policy of deliberate ambiguity since the beginning of the Cold War?

Ms. TAUSCHER. Senator McCain, I don't think it's a reversal. I think what it is, is an articulation of the reality of the 21st century. What we have——

Senator MCCAIN. Excuse me, it's not a reversal of the previous policy of ambiguity concerning what the U.S. action would be, in case of attacks on the United States and our allies?

Ms. TAUSCHER. With all due respect, Senator, I don't know how you reverse ambiguity. Ambiguity is what it is, it means that you were not specific——

Senator MCCAIN. Oh no, ambiguity was clearly a policy, Madam Secretary. It was clearly a policy so that our enemies would not be clear as to what actions we would take in case of attacks. That——

Ms. TAUSCHER. Senator, you're making my point.

Senator McCain:—that is a policy, Secretary Tauscher. If you allege that it's not, then we might as well move on to the next question.

Ms. TAUSCHER. Senator, you're making my point for me.

Senator MCCAIN. Pardon me?

Ms. TAUSCHER. You're making my point for me; we were not clear. We were not clear to countries, that——

Senator MCCAIN. Now we are clear.

Ms. TAUSCHER.—we would never use nuclear weapons against, that we would not use nuclear weapons against them. That's what this policy says. This policy says that, for non-nuclear-weapon states that are in compliance with their NPT obligations, we're not going to either threaten or use nuclear weapons against them.

Senator MCCAIN. That's not a change in our policy.

Ms. TAUSCHER. It is an articulation of our policy. It is moving our policy to a more clear point of view. It is more clear than ambiguity. Yes, that's right.

Dr. MILLER. Senator, could I perhaps add, briefly——

Senator MCCAIN. I'll be glad to.

That's one of the more bizarre statements I've ever heard made before this committee.

Go ahead.

Dr. MILLER. Senator McCain, the United States first made a Negative Security Assurance associated with the NPT in 1978, and that's by Secretary of State Cyrus Vance. The statement said that the United States would not use nuclear weapons against non-nuclear-weapon states that were party to the NPT.

Same pledge was made in 1995, and again in 2002 by subsequent administrations, so this Negative Security Assurance is not new. What the change is, in the NPR, is that we've added the condition that a state must also be compliant with its NPT obligations. So, we've added a condition. In order to get into that group, that is provided an assurance that the United States will not use nuclear weapons, we've added a condition. Under the old assurance, that Iran, today, would be provided that assurance and under the new assurance it is not.

Sir, the other part of that, I think you were refering to it as calculated ambiguity, at various points in time in the past, the United States has hinted that nuclear weapons might be used in response to chemical or biological weapons, even if by a non-nuclear-weapon states. Our view was that the credibility and capability of our deterrence posture is the determinative factor, in that—both with respect to non-nuclear-weapon states and nuclear-weapon states or noncompliant states, that a clear posture that distinguishes between those two was likely to be more effective for deterrence.

Senator MCCAIN. I guess that's in the eye of the beholder, Dr. Miller.

So, let's have this scenario. There's a biological and chemical attack on the United States of America, inflicting a great deal of devastation on the United States of America, and we know who did it. So, then the decision is made as to whether we consider the use of nuclear weapons to be directly guided by and dictated by whether that nation is in compliance with the NPT?

Dr. MILLER. Sir, the policy would be that the use of nuclear weapons would be contemplated if that state were either a nuclear-weapon state, or a state that was not compliant with its nuclear nonproliferation obligations.

Senator MCCAIN. So, if there is a massive attack on the United States, we decide whether nuclear weapons are used, or will not be used, not because that might be the best way to respond or not, but whether that nation is in compliance with the NPT?

Dr. MILLER. Senator McCain, the——

Senator MCCAIN. That is really remarkable.

So, we are telling the American people, now, that if there's a chemical or biological attack on the United States of America, and it is of devastating consequences, we will rule out the option of using a nuclear weapon, even though that may be the most effective course of action, if that country is in compliance or noncompliance with the NPT.

Dr. MILLER. Sir, if you look at the countries today that have any significant capacity to develop chemical and biological weapons, you will find that those are states that are either nuclear-weapon

states or that are not in compliance with their nuclear nonproliferation obligations, such as——

Senator MCCAIN. Today.

Dr. MILLER.—North Korea and——

Senator MCCAIN. Today, that's the case. Maybe not a year or 5 years from now. But, if they are in compliance with the NPT, they are free to launch attacks on the United States of America, and be assured that there will not be a response with nuclear weapons, even though that may be, in the view of our military leaders, the best way to respond to it.

Dr. MILLER. Sir, if you look at the experience of, to take one example of Saddam Hussein, I think you can see that the conventional capabilities of the United States ought to be sufficient to provide a very significant deterrent. We've made it clear, in this NPR, that both political and military leaders would be held accountable for the use, or the transfer, of weapons of mass destruction.

Might I very briefly add, with respect to your point, that conditions could change. I absolutely agree. That's specifically why the NPR stated that the United States reserves the right to modify this assurance if, in the future, the threat posed by biological weapons proliferation and technology advancement would make that appropriate.

Senator MCCAIN. Of course, I got a non-answer from Secretary Tauscher. Why we even got into this is beyond me . . . is beyond me. But, the fact is that we have now sent a message: Stay in compliance with the NPT, and you will be immune from the response, if necessary, of a nuclear weapon, in order to save and minimize losses or most effectively respond to a chemical or biological attack on the United States of America. It's a remarkable circumstance.

My time has expired.

Senator BEN NELSON [presiding]. Senator Lieberman.

Senator LIEBERMAN. Thanks, Mr. Chairman.

Secretary Tauscher, I think you were leaning forward to the microphone. I wanted to give you another chance to answer the question from Senator McCain, because it's an important question, which is, why is this section in here? In other words, before I give you the chance, I'll just say, really briefly, it does seem to me that this provision in the NPR takes the previous calculated ambiguity, removes a lot of the ambiguity, but, frankly, then restores some of the ambiguity, in the language that Mr. Miller just quoted. Dr. Miller, which is that we reserve the right to review this at any time. So, it's a curious part of this, of the review, which I, overall, think is a very constructive and significant document. So, why is it there?

Ms. TAUSCHER. Senator Lieberman, it's there because the decision, I think rightly, was made that the great balance of countries, many of whom are our allies that don't have nuclear weapons and that are in compliance with their NPT obligations, are not targets of the United States to use nuclear weapons. The bar for using nuclear weapons is extremely high.

Senator LIEBERMAN. Right.

Ms. TAUSCHER. The deterrence of nuclear weapons is extremely successful. We have not used a nuclear weapon in 65 years. We have used conventional weapons, with great success, great force, and great devastation, in the recent decade.

Senator LIEBERMAN. Right.

Ms. TAUSCHER. So, we have decided that we would deter activities by non-nuclear-weapon states in good compliance with the NPT, with conventional weapons. Knowing that, we believe, since we have the finest military in the world and the most significant conventional weapons, that that deterrence suits the kind of threat that they pose to us.

We have added the caveat that, if those states should use chemical or biological weapons, that we would make very clear to them, we specifically say that we would use a devastating conventional force, and that we would hold all of those accountable. That makes it very clear, to any leadership in those countries, what the consequences of these kinds of aggressions would be.

Senator LIEBERMAN. Okay, so that helps to clarify this, Dr. Miller, you said earlier that this was "explicitly not intended" as a removal of ambiguity, in the case, for instance, of Iran and North Korea.

Ms. TAUSCHER. That's right, because what we did——

Senator LIEBERMAN. Because they're not in compliance with——

Ms. TAUSCHER. That's right.

Senator LIEBERMAN. Or they're not signatories. So, this is a reassurance to our allies.

Okay, I'd just ask one last question. Maybe you've answered it, but just to give you a real-life example, as I recall it.

In 1991, during the lead-up or the beginning of the Gulf War, I can't remember the exact timeframe, but Secretary of State Baker issued a public warning to Saddam Hussein that, if the Iraqis used chemical weapons on our troops, they would suffer, I believe he said something like devastating consequences. That was widely interpreted to include nuclear weapons.

In the aftermath of the NPR, would you say that a current Secretary of State or President, in a similar circumstance, could issue the same warning?

Dr. MILLER. Senator Lieberman, the answer to that is yes. Iraq, at the time, was not in compliance with its nuclear nonproliferation obligations, in precisely the same words, and an associated calculated ambiguity would be applicable.

Senator LIEBERMAN. Very good. I appreciate that.

Let me go on to another point, which was the main concern I had about the NPR, as I said; and most of it, I think, is really constructive and important. I was surprised by the statement that, when weighing options for the life-extension programs for our nuclear arsenal, which become more important as we go forward with the New START treaty, because we're going to have fewer nuclear weapons. This is a quote from the NPR: "There's a strong preference for the refurbishment or reuse of nuclear components, rather than their replacement." The NPR continues to state, "replacement of nuclear components would be undertaken only if critical stockpile management program goals could otherwise not be met."

I was surprised by that, because I think the overall goal is, what you've said and we all agree with, that we wanted to maintain a safe, secure, and effective nuclear stockpile. That was the goal of the nuclear stockpile program, the goal of setting up of the NNSA. It's consistent with—I'm looking at a document that reported, the

2009 Jason Advisory Report to the NNSA, it describes reuse and replacement. Frankly, the language of the replacement seems most forward-leaning. This is actually a quote from their report of, what they said, the definitions given to them by NNSA. I'll quote from the definition of warhead replacement. "Some, or all, of the components of a warhead are replaced with modern design that are more easily manufacturable, provide increased warhead margins, forego no-longer-available or hazardous materials, improve safety, security, and use control, and offer the potential for future overall stockpile reductions."

So, here's my concern, I'm puzzled about why that language is in there, because I fear that it will send, both to NNSA and, most important, to the extraordinary scientists who are working for us, a kind of discouragement to use replacement, when, to me, it should be equal with reuse and refurbishment. The choice would be, which one helps us most to have a safe, secure, and effective, reliable nuclear stockpile?

Dr. Miller and Mr. D'Agostino, or maybe both?

So, can you reassure us that replacement is equal, as an alternative, to keep our stockpile as we want it to be?

Dr. MILLER. Senator Lieberman, I'll answer very briefly, and then turn it over to Mr. D'Agostino.

Senator LIEBERMAN. Okay.

Dr. MILLER. The NPR stipulates that, in considering life-extension programs, that the full range will be considered and studied, from refurbishment, to reuse, to replacement, and that only at the point of moving forward to engineering development would a preference be given, or first consideration be given, to refurbishment or reuse.

It does note that the presidential authorization would be required to go forward with replacement. Senator, speaking from my perspective, one of the reasons for this provision is that the administration noticed that the Reliable Replacement Warhead (RRW) Program had been canceled by Congress, and understood there would be an important threshold involved with moving forward with a replacement option. I wanted the President to have a specific look at that and to understand the case for it, when it should occur.

Senator LIEBERMAN. Okay.

Mr. D'Agostino? To me, it creates some confusion. I hope, perhaps in the 1251 report that you're going to submit, you can clarify this.

I'll ask you first; you're the expert. The RRW Program doesn't mean building a big, new warhead. Not necessarily. It mostly means replacing component parts, doesn't it?

Mr. D'AGOSTINO. It means replacing component parts, sir. The most important thing, from our standpoint, because we have a commitment to maintain our stockpile and our deterrent without underground testing, is it's based on previously tested designs.

Senator LIEBERMAN. That's very important, I appreciate your mentioning that, right. Not a big, new design.

Mr. D'AGOSTINO. Yes, sir. It's based on previously tested designs. We have a tremendous test history, test database that we want to exploit and use all that information in order to move forward.

The principles of the Stockpile Management Program have really guided us here, as I said in my oral statement. We want to increase stockpile safety, security, and reliability. We obviously want to reduce the likelihood of conducting an underground test and we want to enable reductions in future stockpile sizes. The approach outlined in the NPR, as Dr. Miller said, allows that full study.

There's actually no confusion, I've talked to the lab directors. They are very comfortable with the language here, that it will allow them to study all options and provide to us the decision-makers, policymakers, and ultimately, as it proceeds through authorization and appropriation to Congress, provides us the opportunity to make sure that we have full insight into that best combination of safety, security, reliability, cost, use of that test history and database, all together in one package.

Senator LIEBERMAN. Yes. Okay, I appreciate the clarification from both of you. I'm interested in what you described as a potential reason this was in here, Dr. Miller, because of the history that Congress canceled the RRW. But, this is a different kind of replacement. I think, as you said, it's based on existing design.

At this moment—not that I or former Congresswoman Tauscher would ever say that Congress might alter its opinions on matters, or need clarification, but I think it might help to define "replacement" and assure us, and those working with you, that this kind of replacement is on equal footing with "reuse and refurbishment."

I thank you, my time is up.

Dr. MILLER. Senator, if I could just add one thing, to just clarify my comment. It's based on existing component design; components that we've tested.

Senator LIEBERMAN. Right.

Dr. MILLER. Yes, sir.

Senator LIEBERMAN. Thank you. Understood.

Dr. MILLER. Thank you.

Senator BEN NELSON. Senator Thune.

Senator THUNE. Thank you, Mr. Chairman.

I, too, want to thank the members of our panel today for being here, and for their service to our country, and especially want to welcome my former colleague from the House of Representatives, Secretary Tauscher. Very nice to have you with us today, as well.

I would like to associate myself with some of the comments that Senator McCain made with regard to the calculated ambiguity. I, too, think that our military leadership would want to have all elements of national power available to them in the event of attack by an enemy of the United States. I won't belabor the point, because I think he covered it pretty well, let me also add that I'm not satisfied with the response to that question.

Dr. Miller and Secretary Tauscher, 9 months ago, General Cartwright, the Vice Chairman of the Joint Chiefs of Staff and former head of STRATCOM, testified before this committee that he would be very concerned about endangering the triad if the number of strategic delivery vehicles dropped below 800. Yet, the newly signed START treaty limits the number of delivery of vehicles to only 700.

What is the rationale for the agreement on only 700 delivery vehicles included in the New START treaty? What justifications and analysis did you rely on to come to that, to arrive at that number?

Dr. MILLER. Senator Thune, I'll give the first answer, and General Chilton may wish to join in, as well as Secretary Tauscher.

We conducted extensive analysis during the NPR of various force structures, including combinations of different balance with each leg of the triad, ICBMs, SLBMs, and heavy bombers. We found that there were a range of possible outcomes that would be satisfactory and that would meet the requirements for STRATCOM.

As the negotiations proceeded, we continued that analysis, and looked at the combination of the limit of 700 deployed strategic delivery vehicles or launchers, and a cap of 800 deployed and nondeployed launchers, and determined that that combination allowed us to do virtually everything that would have been possible under a single limit of 800 strategic delivery vehicles.

We will provide a specific force structure; I think you'll see it's a balanced force structure, associated with the New START treaty when we submit the section 1251 report as the treaty is provided for advice and consent of the Senate.

General CHILTON. Senator, I would only add that, of course, time has passed since General Cartwright testified, and we had the opportunity to do a lot more analysis during this time period. As we looked at it, it not only made sense strategically, but it certainly is doable, to continue to sustain the triad at these current numbers and, I believe, at lower numbers. The triad will still be a viable and important area, even if there are future considerations for that, should they come up. The flexibility provided by those three legs are still important to us today.

Senator THUNE. Will the Russians have to cut their number of delivery vehicles to get to 700?

Dr. MILLER. Senator Thune, relative to their current accountable levels under START, it will be a slight reduction. We would expect them to be going down in any case over time, however.

Senator THUNE. Okay, my understanding is that they're already going to be at or below that level. For us to drop down to that level, I guess my next question would be, what, if anything, do we get in return for that concession?

Ms. TAUSCHER. Senator Thune, I wouldn't call it a concession. In the negotiations for the New START treaty agreement, as you can imagine there are many, many different variables and many, many different things. The NPR, which was congressionally mandated in this administration, began early last year, was actually designed to deal with the guidance for the New START treaty negotiations, first and primarily. So, all of the guidance that went into the START negotiations came out of what was the beginning of the NPR. Those limits were limits that the entire interagency agreed to.

So, I wouldn't call it a concession. These were decisions that we made, that we believe were the right numbers for our side and the Russians made the same decisions on their own side.

Senator THUNE. You answered this, General Chilton, and go ahead and respond to that question, if you'd like, but I also want to know if you could elaborate a little bit on what the implications

are for each leg of the nuclear triad under these reductions. How many bombers, land-based missiles, or submarines will we have to cut in order to be compliant with the treaty?

General CHILTON. Right. Those numbers, and the decisions on that, will come forward in the next couple of weeks, as Dr. Miller said, and there's still some work to be done by the Services on how to balance that out.

But, back to your other point, Senator, one thing I was pleased to see in the treaty were these limits. Although Russia may be close to, or slightly below them, already, when you look to the future, we certainly don't want them to grow. They would have been unrestricted, otherwise, without these types of limits articulated in the treaty. So, having that limit there, and with the knowledge that what we negotiated to is absolutely acceptable to the STRATCOM for what we need to do to provide the deterrent for the country, made me comfortable with that approach.

Dr. MILLER. Senator, if I could add, very briefly, that the New START treaty has provisions that should allow us to do three things that will reduce the requirement for the number of strategic delivery vehicles while still keeping the same force structure.

The first one is, it eliminates what we've called the "phantom" strategic delivery vehicles, those that are accountable under the old START treaty, but that are no longer associated with the nuclear mission. That includes the strategic submarines that were converted to conventional-only and it includes our B–1 bombers that have been converted to conventional-only. Those changes allow us to take a number of delivery vehicles off the books.

Second, the treaty also allows further conversion of current dual-capable bombers to a conventional-only role that would take them off the books, as well. We are looking at that possibility for some B–52Hs.

Finally, the treaty allows the elimination of launchers from accountability for submarines, through a variety of means, including the simple removal of the gas generator that would eject the SLBM. As we look at the overall requirement, we determined that we wanted to keep 14 strategic submarines in the nuclear mission, at least for the near-term, as we see how they do as they get toward the later part of their lives. But, there's not the same requirement for all the tubes associated with those. So, we are looking at the possibility of removing some of those, through a relatively simple operation.

Senator THUNE. The NPR emphasizes the development of conventional Prompt Global Strike capabilities. Will these Prompt Global Strike systems count against the New START treaty limits and require further nuclear cuts to accommodate them?

Dr. MILLER. Senator Thune, that is a two-part answer. The first part is that, if we were to put a conventional warhead on an ICBM with a traditional ballistic missile trajectory, or on an SLBM with a traditional ballistic missile trajectory, then it would be accountable. When the DOD previously proposed the conventional Trident modification, that system had this sort of trajectory, and would have been accountable. The numbers associated with that were 2 missiles per boat times 14 boats; it would be 28. The NPR explicitly looked at the, as it did force structure analysis, potential for fur-

ther reductions, under the 700 and 800 combined limit. That would leave room for that, and indeed, would leave room for a small number of conventional ICBMs, if that were the determination made than that was desirable. That would be a very small number. That analysis is underway as part of our broader long-range strike study, we expect to conclude that in the coming months, and provide any recommendations in the fiscal year 2012 budget.

There are a wide range of conventional systems that would be considered Prompt Global Strike that will not be accountable under the New START treaty, including, for example, the work that's ongoing now on hypersonic-boost glide vehicles, longer-term work on hypersonic cruise missiles, and so forth.

Senator THUNE. My time is up, if I could get General Chilton to respond to—as the nuclear weapons are reduced, and conventional Prompt Global Strike capabilities are developed, to what degree can those conventional capabilities substitute for nuclear capabilities when it comes to providing deterrence?

General CHILTON. Senator, I consider the Prompt Global Strike capability as a niche capability, another weapon in the quiver, if you will, of the United States to address warfighting concerns. I do not see it as a replacement for the nuclear deterrent in that role, specifically. Not to say that all of our conventional capabilities have some deterrent role. But, you don't replace the nuclear deterrent with that, 1 for 1; or, not even 10 for 1.

Senator THUNE. Okay. Thank you.

Thank you, Mr. Chairman.

Senator BEN NELSON. Thank you, Senator. I guess it's my turn.

Mr. D'Agostino, the new treaty between the Russian Government and ours to further reduce the number of strategic nuclear forces places a premium on our ability to maintain an infrastructure in the technical capacity to provide for that stockpile that's safe, secure, and effective into the foreseeable future. Do you have adequate funding? Are you asking for adequate funding to make certain that the weapons programs, the facilities, and the improvements to the facilities and workforce are funded?

Mr. D'AGOSTINO. Senator Nelson, absolutely. I do have adequate funding. The fiscal year 2011 President's budget request picks a total 5-year stream that provides the funding for this first 5-year slice of the program.

As Dr. Miller described, the 1251 report will describe a full 10-year period. This funding stream, and the support by future administrations and future Congresses, will be required over multiple years, because the work that we have will happen over many years.

Senator BEN NELSON. As I asked you in our subcommittee hearing, is the budget backloaded? In other words, are we anticipating higher costs in the out years, therefore, underfunding for the current and the foreseeable years?

Mr. D'AGOSTINO. Absolutely not. The budget is not backloaded. The budget that we have for the first 5 years represents exactly what we need to do, what the NRP has asked us to do. It also recognizes the reality that, in the early stages, particularly for large construction projects, and of which we have two in this proposal, that the early years of those construction projects, we spend time doing the design work. Then, after a few years of making sure we

know exactly what we want to build, we'll shift into the construction effort. We won't have those baselines established until about the year 2012, 2013. Though I do expect some adjustments but, this is natural, in a fairly complicated, long-range plan.

Senator BEN NELSON. Thank you.

General Chilton, you've stated that you fully support the NPR and the New START treaty. Is that accurate?

General CHILTON. That's correct, Senator.

Senator BEN NELSON. As the combatant commander of STRATCOM, perhaps it would be helpful if you could discuss the role that you had in the development of the NPR.

General CHILTON. Senator, both with the NPR and with the START negotiations, STRATCOM was closely consulted and part of the team that was working in the background to support the dialogue and the preparation for negotiators, going forward. So, we were always asked for our input. We stood up a team almost a year and a half ago, anticipating this work, back at STRATCOM headquarters, of some very great Americans, with exceptional talent, who studied and prepared for this, and put the models in place to be able to answer questions quickly to support negotiations and also support the dialogue we had with policy folks, with Dr. Miller's staff, along the way. We certainly appreciate the close cooperation we were offered.

Senator BEN NELSON. There have been criticisms raised regarding whether or not the verification aspects of "trust but verify," to use some very famous words, is inadequate in this treaty. Could both you and Dr. Miller tell us what your belief is about what the verification requirements, or lack of requirements, in this treaty really mean? Then, has anybody from the Intelligence Community (IC) been consulted in connection with these verification issues?

General CHILTON. Senator, you bring up a good point at the end. Really the question on whether verification regimes are adequate or not is a question for the Director of National Intelligence and his staffs, because, they're going to be the ones that we will turn to throughout the treaty regime to say, "Are the Russians compliant?"

A couple of points I'd make, though, is, one, throughout our participation at STRATCOM, in support of START, these types of questions were asked frequently and, I believe, addressed throughout that time period. But, again, the question, I think, is more appropriate for the IC.

One final point. There were no verification opportunities for us, given the expiring of the previous START agreement, back in December. Of course, the Moscow Treaty did not allow for any verification. What we were faced with was going forward with no verification, no insight into what the Russians would be doing with their strategic force structures. So, I'm encouraged by the fact that we do have that now included in this treaty.

Senator BEN NELSON. You believe it's adequate at this point in time?

General CHILTON. All indications, from what I've been told, and my observations throughout the development were that they were adequate for the period of the treaty.

Senator BEN NELSON. Dr. Miller?

Dr. MILLER. Senator Nelson, I would, first, just reiterate that this is, ultimately, an IC judgment, and that we expect to have a National Intelligence Estimate provided to the Senate right about the same time that the treaty is. The Office of the Director of National Intelligence and different elements of the community were very much involved as we went forward with the negotiations. As the negotiators considered steps to take, in terms of the priorities for U.S. negotiating positions, the IC played a very important role.

I'll just say, on a couple of items in particular, I think we have very strong provisions. There is a provision for 18 onsite inspections per year that will be able to cover both deployed and nondeployed systems. We have a robust data exchange process in place that along with a number of other provisions, are quite detailed, help support our ability to collect intelligence through national technical means that also support verification.

Again, it's an IC assessment, but I share with General Chilton the view that, based on everything that I've seen to date, I have great confidence that this treaty will be verifiable.

Senator BEN NELSON. Do you have any reason to believe that the intelligence position will be any different than what you've just stated, right now? In fact, they were included in the discussions and negotiations, so I'm assuming that you don't believe that they would have a different opinion than yours, right now.

Dr. MILLER. Sir, I don't believe that, but I won't speak for the IC. That'll be their judgment.

Senator BEN NELSON. Yes. I intend to talk to them about it, as well. But, thank you.

Secretary Tauscher, the criticism I've seen from time to time is that, if this treaty doesn't really require us to do certain things, it's more of a statement that this is what we intend to do, as long as it's in our national interest. If it ceases to be in our national interest, we reserve the right to either withdraw from the treaty or change our actions. The same thing would be true of our counterparts.

Perhaps in a few words, you could give us, then, the value of entering into an agreement of that kind, that is not really binding per se, because either party may change its behavior or withdraw from the treaty.

Ms. TAUSCHER. Senator Nelson, that's true of all treaties. Most treaties have a national-interest exit clause. In fact, the United States decided to abrogate the Anti-Ballistic Missile Treaty in the last administration.

Senator BEN NELSON. That's true.

Ms. TAUSCHER. Because we wanted to build limited regional missile defenses.

I think the important parts about this New START treaty agreement that are salient and specific to the timing is that we had the unfortunate circumstance of the previous START treaty expiring last December. While both parties agreed to move forward while we were negotiating, to keep the spirit of the previous treaty, what we ended up having was a treaty that expired. Frankly, in the Moscow Treaty, there was no verification at all.

So, we have verification that is specific. It is robust in many different areas; certainly, onsite inspections and a number of the ele-

ments that we had in the previous START agreement. There are fewer inspections, but there are also fewer places to inspect. During the Soviet time, we had many, many different facilities, including other countries, other than Russia. A lot of those facilities have been closed down over time, and there are fewer weapons and fewer places to go to inspect them.

I think the amalgam of what we have here is a strong treaty on disarmament. We have a strong treaty on verification. We have better technical means now than we've ever had. We have a smaller footprint to visit. But, I think that, in the end, this is a treaty that will serve the American people and add to our national security interests.

Senator BEN NELSON. It can serve as an example for others for nonproliferation. Is that fair, too?

Ms. TAUSCHER. It serves significantly for nonproliferation. That's one of the reasons why the combination of our Negative Security Assurance, which makes clear that we're putting a lot of onus on belonging to the NPT, and being in compliance to it. As Dr. Miller said, up until we changed this policy, in the previous policy, Iran and North Korea may have qualified, under certain readings of a Negative Security Assurance. What we have said is that we will not use nuclear weapons against countries that are in compliance with their NPT obligations. That is an important difference, and it certainly carves out countries like Iran and North Korea, who are clearly not in compliance.

Senator BEN NELSON. Senator Wicker.

Senator WICKER. Thank you very much.

Let me begin by following up on an area that Senator McCain touched on.

Dr. Miller, this statement in Singapore yesterday by Secretary Flournoy stated: "Military force is an option of last resort. It is off the table in the near term." I understand you spoke to Secretary Flournoy yesterday, and her position is that she was either misquoted or that she misspoke. Is that correct?

Dr. MILLER. That is correct. I have known the Under Secretary for some time, and I would lay money that she was misquoted.

Senator WICKER. Okay. Well I hope——

Dr. MILLER. It is, sir, if I could, Senator, very quickly. It is fair and appropriate to say that the use of military force should be a last resort. But, this administration has also made clear that it is on the table.

Senator WICKER. That we don't take options off the table. I think that's a problem you get into when you start answering questions of this type. I hope it's a misquote. Alex Kennedy is the Associated Press reporter. Perhaps there's a transcript of that. Reporters are human, and so are public officials, people do make mistakes and do misspeak occasionally.

But, Secretary Tauscher, do you agree that this needs to be clarified, and if, indeed, Secretary Flournoy did say this, that she should issue a statement, retracting that?

Ms. TAUSCHER. I think, once again, we have to get to the bottom of exactly what happened. But, what is clear is this administration's policy. This administration's policy, regardless of who says it or when it is said, the President has made very clear that all op-

tions are on the table. While the military option may be the one of last resort, it is certainly on the table when it comes to Iran.

Senator WICKER. If she said otherwise, which she's quoted as doing, then she should clarify that and retract that statement.

Ms. TAUSCHER. Under Secretary Flournoy is one of the most respected members of DOD, and I'm sure that she will take the responsibility seriously.

Senator WICKER. All right.

I'll just say this, Mr. Chairman. I would hope that this could be clarified. I view it as a serious matter, as did Senator McCain. If she said it, we're all human, but she should retract it.

Now, let me ask, then, with regard to this replacement and reuse and refurbishment issue, clearly we have made it harder. The NPR makes it more difficult to go to the replacement option, by saying that that would be a last resort and that it should be specifically authorized by the President and approved by Congress.

Mr. D'Agostino, does this make it more difficult for us to recruit the top scientists to work on a nuclear stockpile, if they know that the replacement option faces these additional hurdles, or there's confusion for their professional career? If you could, give us an example of what is off the table at this point, unless we have specific presidential authorization and specific approval by Congress.

Mr. D'AGOSTINO. Senator Wicker, it does not make it more difficult to recruit scientists. The scientists at our laboratories now, the lab directors at our laboratories now, understand the policy. They understand that they have a free rein to study all options associated with extending the life of the stockpile. That's the most important thing. This NPR is very clear on that.

Senator WICKER. They're studying all options, and they're equally studying the replacement option at the same time.

Mr. D'AGOSTINO. Yes, Senator, they are equally studying the replacement option. The key is to make sure that, in the studies of how do we approach extending the life of a particular warhead that we understand the benefits associated with each of the particular options. The most important thing, as the NPR makes clear, is that our desire is to do so in a way that maximizes the safety, security, and effectiveness of the deterrent without underground testing. The replacement option, the policies that put forward here allow us, specifically, to be able to do that.

Senator WICKER. Okay. We're limited in time today. I'm going to ask you to provide an example of what we're talking about on the record, as a response. Will you do that?

Mr. D'AGOSTINO. Senator, I'd be glad to provide that for the record.

[The information referred to follows:]

During the Cold War, designers at the national laboratories optimized each nuclear weapon system for military utility and minimized cost by designing small, light systems. As the threat environment has evolved, the emphasis has shifted. Now our designers are working to maintain military capabilities while optimizing the safety, security, and reliability features in the system. Replacement and reuse life extensions provide the greatest opportunity to modify previously tested designs to include modern safety and security components, and to increase our confidence in the reliability of the system.

The use of reuse and replacement to extend the life of a weapon and to improve surety and safety will also challenge future designers. The full suite of Stockpile Stewardship Program tools will be required to design, develop, and certify changes

based on existing tested designs. This will help maintain the most important part of our deterrent, the skilled scientist, engineers, and technicians that design, build, and sustain the stockpile. This is also the same skill set needed for nuclear forensic and counterterrorism.

A replacement life extension would replace either the pit or secondary with a design based on previously tested designs but not used previously in the stockpile. This would require specific presidential authorization and funding approved by Congress. An example of a replacement life extension is a design that adds advanced safety, security, or reliability features and requires greater modifications to either the pit or secondary than reuse designs.

Examples of new warhead or military missions off the table for the life extension options of replacement, reuse, and refurbishment include enhanced radiation weapons, electromagnetic pulse weapons, or nuclear explosive-driven x-ray weapons.

Senator WICKER. Okay. Because I think it would take all of our time.

Let me ask the panel this, with regard to missile defense and Russia. I asked this question to Secretary Gates in January 2009. What about a possible missile defense program with Russia and the United States partnering up? The idea would be a joint missile defense system. Secretary Gates said there's nothing in writing. But there have been some inferences and some discussions, and maybe if we got political baggage out of the way, that might be a possibility.

I had a conversation with a leading Russian legislator just this week. I can tell you that he was open to this possibility. As a matter of fact, he brought it up before I did.

Starting with Dr. Miller, others might be able to interject, what about this? Is there a place for Russia in this issue? Has there been any work with Russia on any of our missile defense concepts?

Dr. MILLER. Senator Wicker, the answer is most emphatically yes. I had the opportunity to meet with, I expect, the same delegation that you did with Senator Margelov from the Russian Federation—pardon my butchering of the pronunciation—and had a similar conversation.

Senator WICKER. Senator Nelson taught me how to pronounce that word: "Mar GAY' luv."

Dr. MILLER. Thank you very much.

We've had an ongoing conversation with the Russian Federation for some time on the possibility of cooperation in missile defense, and have begun a joint threat assessment of missiles that could affect both Russia and the United States. Secretary Gates and DOD believe there's a tremendous amount of possibility for significant cooperation moving forward.

If I could, Secretary Tauscher has led some of our discussions with the Russian Federation on this topic. I think it would be helpful to hear from her, both about what's been accomplished and about plans which I think are going to continue in the very near term.

Senator WICKER. That would be great.

Ms. TAUSCHER. Thank you, Dr. Miller.

Senator Wicker, you're absolutely right. Obviously, while there are concerns that we address very often about the phased adaptive approach and what exactly it means to the Russian Federation, and we have constantly asserted that the phased adaptive approach is neither targeted toward the Russian Federation nor, frankly, capable to deter its many, many offensive weapons. We

have had ongoing strategic dialogue with the Russians. I began it last summer, and we actually are having a meeting again next month.

There is interest on the part of the Russians. There are many threats and many opportunities, where we view the world in the same way. We have a warming relationship with the Russians. We don't have a close relationship yet, but it certainly is one where we are establishing much more of a dialogue, especially when it comes to threats and trying to assume that we can look at threats the same way.

So, as Dr. Miller said, we're looking at a joint threat analysis. We're looking at common platforms like radars, things that the Russians have that are strategically located that could be part of a larger network that we would have.

I think that there is the possibility for and certainly, we are going to have ongoing conversations. The idea of working cooperatively on missile defense is an agenda item of President Obama. He has talked to President Medvedev about it. I think that we will continue to see how we can work together and find those common areas of common agreement where we can come together.

Senator WICKER. I hope so. I hope that our relationship with Russia is, indeed, warming. This is a concept that goes back all the way to President Ronald Reagan, who very famously and publicly announced, "If we can learn a way to defend ourselves against a missile attack by a rogue nation, we would certainly be willing to share that and let others defend themselves." I'm encouraged by this and I hope we can get further reports.

Thank you, ma'am.

Senator BEN NELSON. Senator Udall.

Senator UDALL. Thank you, Mr. Chairman. Good morning.

It's always wonderful to see my former colleague from the House, Secretary Tauscher. Thank you for what you're doing.

Secretary Miller, you're making an appearance here almost every day. Look forward to seeing you again next week, I'm sure.

Secretary Miller, you talked about tactical nukes and the fact that they're not included in the limitations addressed in both the New START treaty and in the NPR. Could you address the quantities of these tactical, or nonstrategic, as some might call them, nuclear weapons that we possess, that Russia possesses, the function of these weapons, and why they weren't limited in START and the NPR. Then, General Chilton and Secretary Tauscher, if you'd care to comment as well after Secretary Miller does, I'd appreciate it.

Dr. MILLER. Senator Udall, I will not get into precise numbers, because they're classified. But, I'll say, in general terms, that we have some, and the Russians have a lot more tactical nuclear weapons. As we note in the NPR, we'd like to see them move their tactical nuclear weapons deeper back into Russia, and to continue the steps that they've taken over the past couple of decades, since the end of the Cold War, to continue to improve the security associated with them.

These weapons were not included in the New START treaty negotiations, quite simply because, at this point in time, Russia was not interested in including them. We believed it was appropriate

and important to move forward with significant reductions in our strategic nuclear forces on both sides, and that this would have an important effect on strategic stability and also help move the relationship forward, as well.

We have proposed, and noted in the NPR as well, that after ratification and entry into force of the New START treaty, assuming Senate advice and consent for ratification, that we would intend to pursue further reductions that would include both strategic and nonstrategic weapons, and both deployed and nondeployed weapons, so that we really get after the overall number of nuclear weapons on both sides.

As Under Secretary Tauscher said, even after the New START treaty comes into place, the United States and Russia will, together, have approximately 90 percent of the world's nuclear weapons. So, we think it's appropriate to take another bilateral step after the New START treaty.

Senator UDALL. Secretary Tauscher, would you care to comment?

Ms. TAUSCHER. Thank you, Senator. It's always good to see you, too.

Dr. Miller's right, first things first. START was aptly named a long time ago. But, it is the start, not only as Senator Wicker mentioned, of the warming of the relationship, but it is the start of a bigger opportunity to move not just on strategic offensive weapons, which is all that the START treaty encompasses, but on to tactical weapons. There is a larger agenda, too, of conventional forces in Europe and many other things that are intertwined with the 21st century force structure and perception of threats and the evolution of threats. So, there are many opportunities here, once the Senate gives it's advice and consent on the New START treaty, to move forward on a bilateral basis with the Russians, but then move into a multilateral opportunity on many of these different elements. I think that first things first.

Senator UDALL. Sure. It has to be expensive for the Russians to maintain all of those tactical nukes. You'd think that there might be a sweet spot where they're amenable to these future conversations. Is that a fair assumption?

Ms. TAUSCHER. That may be a stretch, Senator, but I think, certainly, one of the reasons why the President's Nuclear Security Summit, I believe, was such a success for having 47 heads of state here in Washington, talking about nuclear terrorism and the importance of nonproliferation. This issue of having weapons that are out there that are not only difficult to secure, but that are the targets of organized crime and, certainly, terrorism. So, smaller number of weapons, easier to secure, while we are still, obviously, maintaining our stockpile at the highest levels. So, I think that there will be increased interest, and perhaps some pressure from the world community, for the nuclear powers to look at, specifically, tactical substrategic nuclear weapons, and to get the numbers down to a more controllable number.

Senator UDALL. General Chilton, did you want to add anything to the conversation?

General CHILTON. I think that adequately covers it, Senator. I'd agree that the next topic of discussion ought to be the large disparity and the large Russian stockpile of what we would call tac-

tical weapons. There will be a dialogue that needs to start as soon as both sides are ready to come together on it. It will be, as mentioned, one that will be a complicated one that will take time. But, we won't get there if we don't start talking about it.

Senator UDALL. I'm not a lawyer, so I can ask questions I don't know the answer to. I'm curious, the size of a tactical nuke, would it be much bigger than those two desks that you're sitting at there?

General CHILTON. Physically in size?

Senator UDALL. Yes, physical size.

General CHILTON. They can be much smaller than this desk.

Senator UDALL. It can be much smaller. I'm mindful of that very powerful documentary that the Nunn-Lugar group put together and the couple at the Canadian border with what they said was a statue in a desk-sized box, and, instead, it was a tactical nuke inside that box.

Let me turn to China. I know their arsenal is much smaller than ours in the States here, but they also have a lack of transparency, and so, you could raise questions about their strategic intentions.

Secretary Miller, Secretary Tauscher, could you talk about your analysis of their intentions, and what are we doing in the realm of more military-to-military discussions that might create more transparency and a better relationship?

Ms. TAUSCHER. You're right, Senator, I think that confidence-building and a sense of transparency and the kind of visibility that we're looking for, not only among the nuclear powers, but generally to strengthen the NPT, is an area of conversation that we have with the Chinese.

Once again, we are mindful of the fact that China is a signatory to the NPT. But, at the same time, I think there are concerns about their force posture and the way that they manage their weapons that would cause concern, not necessarily significant concern, certainly. But people want to have a sense of confidence and more of a visibility into the Chinese program. More of a sense of confidence-building would be welcome.

Dr. MILLER. Senator Udall, I would just add that the Chinese have indicated that they're not seeking numerical parity with the United States or with Russia. At the same time that, as Secretary Tauscher has indicated, they've had a lack of transparency about their plans and programs for nuclear weapons and delivery systems. We would hope to engage with them in a discussion on strategic stability that includes increased transparency, not just on numbers of weapons, but on their thoughts about both plans and policies associated with them.

Senator UDALL. The NPR calls for bilateral talks, I believe, with both Russia and China, with an emphasis on more stable and resilient, transparent strategic relationships. When would you anticipate those talks might start?

Ms. TAUSCHER. President Obama put together a strategic dialogue between both China and the United States, and Russia and the United States. There are 13 or 14 subgroups. All of them have met in both the Chinese and the Russian engagements. These are talks that are meant to, once again, assert what our positions and our principles are on many issues, but at the same time, to listen and to work together and develop relationships. So, I think we're

well on our way to developing those kinds of relationships. But, once again, the Chinese will make their own decisions as to the kinds of transparency they will have. I think that we and many others are on notice that the lack of transparency causes us to ask for more confidence-building. We are very interested in having conversations that would create that kind of confidence.

Senator UDALL. I'm confident, as I finish my questioning here, that, Secretary Tauscher, you will lead the effort ably, as you have. Congratulations on the New START treaty. I look forward, as one Senator, to supporting it when it comes to the floor of the Senate. I see no reason that we shouldn't be able to find, easily, the 67 votes to ratify the treaty.

So, thank you for your hard and important work.

Ms. TAUSCHER. Thank you, Senator. Thank you very much.

Senator UDALL. Thanks.

Senator BEN NELSON. Senator Sessions.

Senator SESSIONS. Thank you, Chairman Nelson.

It's great to see each of you. We thank you for your service to the country and look forward to working with you on some very important issues that we'll be dealing with in the months to come.

Secretary Tauscher, we worked together on funding a lot of defense issues over the years, and I hope that relationship can continue.

I'll ask Secretary Miller and Secretary Tauscher this question. It seems to me that the President has stated an improvident policy. That is that we would eliminate nuclear weapons entirely. I say it's improvident because it's not going to happen. Sometimes bad goals can get you in trouble. Second, the administration seems to be committed to the view that if America leads in reducing our weapons significantly, that this will cause others to want to follow.

What evidence do you have, and what facts can you cite, that this so-called moral leadership argument will actually impact countries that present the greatest immediate threat, it seems, to us, Iran and North Korea, from pursuing nuclear weapon systems?

Dr. MILLER. Senator Sessions, I'll answer first, and then turn it to Secretary Tauscher.

The goal of eliminating all nuclear weapons from the Earth has been a goal of U.S. administrations, starting with the Truman administration, and has been embraced by every one—every administration but one since then, including, very famously, President Reagan.

What the President said as he announced this objective for the United States, or reiterated this objective for the United States, was that this is an important objective and that he, at the same time, realized that it was something that may not occur during his lifetime, or during our lifetimes. The fact that we are pursuing this objective and taking steps in this direction, consistent with our NPT obligations, but, at the same time, sustaining a safe, secure, and effective nuclear deterrent for ourselves, our allies, and partners, is a fundamental part of the policy.

With respect to the reduction of nuclear weapons, we didn't assume that if we reduced it, others would. Indeed, that's why we had a bilateral negotiation with Russia to reduce their nuclear weapons as we reduced ours. We believe that while exact parity in

numbers of nuclear weapons is not as important as it was, perhaps, during the Cold War, it's still important to have approximate parity on both sides, so that neither side has any confusion about the intent of the other.

Finally, with respect to the question of the impact on nonproliferation of our statements, including our declaratory policy, the intent is to make very clear that there are benefits to states that will adhere to the NPT—not just join, but fulfill their nuclear nonproliferation obligations and there are potential risks to states, such as Iran, that do not.

Ms. TAUSCHER. Senator Sessions, as Dr. Miller says, the idea of eliminating nuclear weapons has been a goal and an aspiration of American administrations for over 50 years. It is also a key pillar of the NPT, something that we are not only a depository state but a signatory to, that is for nuclear-weapon states to disarm.

But, the President has balanced those commitments and those ambitions with a very sanguine set of national security priorities, which include increasing budgets, in both the NNSA and in the nonproliferation budget, to make sure that until that time, as the President has said may not happen in his lifetime, that will take patience and persistence. The United States will have the strongest, most effective, and the safest nuclear stockpile in the world, and that our deterrent that we use to protect ourselves and, certainly, our allies is extended deterrence which is as strong as ever.

Senator SESSIONS. Thank you.

I'm just not sure that this kind of political leadership is going to work in the way that it's projected. I do worry that if we draw our numbers too low, a lot of nations might well consider that they could, with a little investment and a period of years, be a peer-competitor of us with nuclear weapons and alter the balance of power in the world. We do have problems with that.

Secretary Tauscher, I believe you were asked about Secretary Flournoy's comments recently, that need to be backed off on. But, it was reported in the Information Telegraph Agency of Russia-Telegrafonyc Agentstvo Svazii Soobshchenyu, February 15, that you told journalists in Russia that the United States had no plans to deploy missile defense elements in the Black Sea, to include *Aegis* ships and sea-based missile defense components. The *Aegis* BMD capability is currently installed on 4 cruisers and 16 destroyers, all *Arleigh Burke*-class destroyers, and 9 *Ticonderoga*-class cruisers are planned to receive the capability. A significant portion of our fleet. *Aegis*-class ships have sailed into the Black Sea seven times over the past 5 years. The last such deployment was, however, in July 2009. Your comments are disturbing, because it would seem to indicate a new policy on deployments in the Black Sea. Certainly, we received Russian demands on missile defense that I think go beyond anything we should acquiesce in.

So, are there any restrictions on the deployment in the Black Sea? Are you aware of any changes in the policy?

Ms. TAUSCHER. No, Senator. There are no restrictions, and I was very clear. The question asked me if there was any permanent deployment of *Aegis* ships in the Black Sea, and I said, "There are no—there isn't." There is not a policy to do that. I was very clear that we have had deployments of *Aegis* ships, most recently last

summer, and that this is a decision that is going to go forward with cooperation. I think it's the Montreux Treaty.

Senator SESSIONS. Are there any——

Ms. TAUSCHER. But, there are no constraints.

Senator SESSIONS. Including *Aegis* ships with missile defense systems.

Secretary Miller? Dr. Miller? DOD, what's your understanding?

Dr. MILLER. Senator Sessions, that's correct. We have no plans to permanently deploy *Aegis* cruisers in the Black Sea but we have the option to position ships there, as consistent with the Montreux Convention.

Senator SESSIONS. I certainly can understand that you don't always get well-quoted in foreign press, not even in American press. Sometimes you can be misquoted. It's important that we maintain that right. But, I have to say that we also were told that there would be no connection on missile defense deployment to the START negotiations. Before they even started, we, basically, undermined our ability to work with the Poles and Czechs and have been, from my perspective, on a very uncertain course, with regard to that.

Maybe, Dr. Miller, first, you've also indicated that we are committed to "the long-term goal of a world free of nuclear weapons," and that's in the NPR, and that the President has "directed a review of potential future reductions in—below the New START treaty levels," even further down. Can you assure us that an objective and careful analysis will be made before such decisions are made?

Dr. MILLER. Senator Sessions, yes. To reiterate what is stated in the NPR, the intention would be to conduct this analysis, have a hard look at deterrence requirements and a number of other factors, to consider any future reductions only after ratification and entry into force of the New START treaty.

Senator SESSIONS. My understanding is that the Russians have absolutely no vision that nuclear weapons will be eliminated from the world. This is not something on their radar screen. So, we're not going to influence them, I think, by unilateral actions.

With regard to our huge disparity in tactical weapons, and they are not covered at all in this treaty, it seems to me that proliferation the danger of a terrorist obtaining a nuclear weapon would be at least as great, if not greater, with regard to a tactical weapon than one that's in a strategic situation. Would you agree?

Dr. MILLER. Senator Sessions, in general, I would agree. We do think it's still important to move forward with the New START treaty and to strengthen strategic stability. At the same time, we would look forward not just to further reductions in tactical nuclear weapons, as you suggested, but also would look forward to Russia taking further steps to improve the security of its tactical nuclear weapons, including their movement deeper back into the interior of the country.

Senator SESSIONS. These are very serious matters, and I want to be sure that our minds are clear that the agreements and treaty-signings, and happy days that those produce, don't color our view of the reality of the dangerous world that we live in. In my view, one of the certain ways to expand nuclear proliferation to a host of nations in the world, if they lose confidence in the willingness

of the United States to utilize a nuclear umbrella to protect them. We have allies and friends who could build nuclear weapons easily. If they feel, at any point, that we've lost our will to maintain sufficient numbers or to use them in their defense, they will have no choice, probably, but to decide to build systems of their own. So, the danger is that the risk we could have is that policies hoping to reduce weapons and reduce proliferation could actually create the other.

I guess you've thought about that? Dr. Miller? Ms. Tauscher?

Dr. MILLER. Senator Sessions, yes, we certainly have. We consulted extensively with allies and partners during the conduct of the NPR, as well as during the New START treaty negotiations. We have expressions of support for both the NPR and New START treaty from allies and partners across the world. I'd be happy to provide some of those for the record, if you'd like.

Senator SESSIONS. I think there are some that are nervous. I'm aware of that. Would you not agree?

Dr. MILLER. Sir, we certainly have allies and partners who are nervous about the security situation in which they find themselves. I believe that the expressions that we've heard from both allies and partners, from multiple regions, have been to increase their confidence in the U.S. commitment to their security, including the U.S. nuclear umbrella.

Senator SESSIONS. I understand that some are nervous.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you very much, Senator Sessions.

Senator Bingaman.

Senator BINGAMAN. Thank you very much.

I appreciate all of your being here.

Let me just revisit one issue that General Chilton talked about earlier. My understanding is that when President Bush entered into the Moscow Treaty, you referred it, back in 2003, there were no verification measures contained there. The thinking was that the verification measures in the START treaty would apply or would meet the need. Now START has expired, so we have no verification measures, at the current time, with regard to the Moscow Treaty. Am I right in that?

General CHILTON. That's correct, Senator. That's my understanding.

Senator BINGAMAN. Yes. So, one of the necessities that we need to think about, in regard to the New START treaty, is the need to put back in place these verification measures, or a new set of verification measures, and that's what I understood Under Secretary Miller to talk about, in your comments earlier.

Let me just go to another issue. I think one of the goals in the NPR is to increase the decision time for launch that the President would have. I would ask, Dr. Miller, if you could explain what reviews are underway or what actions might be possible to accomplish that. Is there really something happening to increase the decision time the President would have before he would have to decide whether to launch or not?

Dr. MILLER. Senator Bingaman, there are two elements to thinking about increasing decision time and thinking about how to im-

prove the quality of information available, whatever the decision time.

The first is that we are looking at improvements at our nuclear command-and-control system. We are making some investments now that were decided during the NPR, and are considering additional steps that it would be more appropriate to discuss in a classified setting.

The second is that as we move forward with a possible ICBM follow-on, we will look at options that have the possibility of survivability without requiring launch-under-attack or launch-on-warning, as would be the case with our current silo-based ICBMs. We think the current ICBMs are extremely stable and stabilizing, particularly as we deMIRV to one warhead each. But, we will look at concepts that would make them even more survivable over time, which would allow them to be part of a Reserve Force.

Senator BINGAMAN. Okay.

Dr. MILLER. Those are really the two principal areas that we have—that we've looked at.

Senator BINGAMAN. Dr. Miller, my understanding is that NATO is currently debating whether or not the deployment of this B–61 gravity bomb, how will decisions by NATO affect the life-extension program that NNSA is engaged in with regard to that? How will it affect NNSA's budget going forward?

Dr. MILLER. Senator Bingaman, you are correct that NATO is currently discussing the future of the NATO nuclear deterrent. Irrespective of the decisions that are taken at NATO, the United States will continue to have a requirement for the B–61, both for our heavy bombers associated with the strategic deterrent, also for the F–35 Joint Strike Fighter (JSF) that is moving forward now, and we're planning on a dual-capability for that aircraft that would be available in the 2017 timeframe.

General CHILTON. Senator, if I could add to that. There has been a lot of, I think, misunderstanding here. We need the B–61, as Dr. Miller said, both for the B–2 bomber and for our current dual-capable aircraft. Folks have tried to make a linkage between the B–61 life-extension program and NATO decisions and F–35 JSF schedule. They are not linked. We need to move out on the B–61 life-extension program. That includes current year fiscal year 2010 reprogramming that will be required to get us on schedule so that we can complete the B–61 in time to then, in 2017, move on to the next problem we know we will have to address, which will be the W–78 warhead. We are up at a tipping point here, a critical time—and I'll defer to Mr. D'Agostino on this schedule-wise, infrastructure-wise, and funding-wise, and it's time for action on the B–61.

I would close by saying it will be the first real opportunity to add the enhanced security and safety features, as well as increasing the effectiveness of the warhead, that are in line with the President's statements that we've seen here in the NPR.

Mr. D'AGOSTINO. If I could just add.

Senator BINGAMAN. Mr. D'Agostino, did you have a comment?

Mr. D'AGOSTINO. Absolutely. To back up what the General said, the B–61 requirement still exists for me to maintain and take care of this warhead, as you've heard, from a requirements standpoint.

It is one of our oldest warheads in the stockpile. It's the mainstay of our bomber leg of the deterrent. We know we have components that are aging out, and they have to be addressed.

The sequencing, as the General described, is very important. The plan is clear: finish the production work on the W–76, look at what we need to do at the B–61 concurrently. That's why we need to start now on that. When the production work on the W–76 warhead tails off, the sequencing is perfect for taking care of our aging issues and concerns on the B–61. That'll pick up in 2017.

Senator BINGAMAN. Let me ask, on this W–78, I gathered from Dr. Miller's comments that one of the things being considered is developing that as a common warhead for the ICBM and the SLBMs. How much more complicated is that than just a straight life extension of the W–78?

Mr. D'AGOSTINO. Why don't I start, and then if General Chilton would like to add, that'd be fine.

It clearly is going to be more technical work than just doing one life-extension. But, we do know, in the aggregate, it's better for us to look at this opportunity to consolidate, because there are, potentially, some very significant savings associated with costs of only doing one life-extension to take care of two warheads. Real opportunities to reduce the numbers and types of warheads, when we look at commonality and the cost piece, and the real opportunity, frankly, to put the types of safety and security pieces in. It's going to be a little bit more challenging technically, but absolutely worth the study. In fact, that's what our 2011 budget proposes to do, is start that effort to study options that we have to do with the W–78.

General CHILTON. I would just echo the point that the study is very important and the promise of the study, with an adaptable-type warhead like this, is that, if we can successfully do this, that I would be comfortable, and I'm sure future STRATCOM commanders would be comfortable, with reducing the number of warheads we retain in the nondeployed hedged status. So this is proceeding forward. Being able to look across the spectrum of refurbish, reuse, and replace is what enables this type of study to go forward.

Senator BINGAMAN. Thank you very much.

My time is up.

Chairman LEVIN. Thank you, Senator Bingaman.

Senator Bill Nelson.

Senator BILL NELSON. Good morning.

General Chilton, after having some conversations with General Cartwright, the Vice Chairman, and General Kehler, the head of Air Force Space Command, they are quite concerned about the recent decision by the National Aeronautics and Space Administration (NASA) budget, which originated with the science advisor having not consulted DOD. They suddenly proposed the elimination of the testing of the solid rocket motor, known as the Ares 1–X. It is a derivative of the solid rocket motor of the Space Shuttle, which has four segments. It adds a fifth segment. There has been one flight test. There is another rocket that is prepared for test. The question before us is whether or not to continue the testing

through fiscal year 2011 of the Ares 1–X, instead of canceling it, as the President's budget proposes.

The concern, as expressed by General Cartwright and General Kehler, is that by shutting down a major part of solid rocket production, it then exponentially increases the cost of the remaining solid rocket motors that DOD has to acquire for the SLBMs and other ballistic missiles that we have in silos.

Since you're the STRATCOM commander, I'd like for you to give your opinion.

General CHILTON. Thank you, Senator Nelson. Senator Nelson, as you are well aware, the solid rocket motor—large solid rocket motors, are very complicated devices. They appear to work quite simply, but, indeed, they give us a great advantage, having the technology and industrial base that we have today, to be able to produce them. As the STRATCOM commander, my concern, that I know acquisition, technology, and logistics is taking a close look at in DOD, is what impact this decision might have on the industrial base as we look to the future.

We're committed to look at a follow-on to the land-based strategic deterrent, the Minuteman III. Although the Navy right now has decided to continue with the D–5 missile during the transition to the follow-on *Ohio*-class, I would anticipate in the future there will be requirements for a follow-on to that missile at some point, as well.

Are we postured correctly, from an industrial-base standpoint, to sustain this technology that I believe will be important for the strategic deterrent for many years to come. That's a question that I think we need to take a hard look at, Senator.

It goes beyond just cost, in my view, though. Although cost would certainly, I would imagine, transfer over towards those other programs. But, it is really bigger than cost, in my view.

Senator BILL NELSON. In response to your answer about industrial base as well as cost, help me understand someone who might say that the diameter of the continued testing on Ares 1, since it's a big rocket, is not the same as the diameter on a D–5 or a follow-on to a Minuteman III. Does that have any bearing? Because, would it not still affect the same industrial base that you're talking about?

General CHILTON. Senator, I guess I don't understand the argument. Again, a large solid rocket motor has the issues of getting the chemistry right and the production of a solid propellant. It has issues with liners, it has issues with inhibitors, it has issues with guidance and control. Thrust-vectoring systems with the solid rocket motor are not simple to do, casing issues, et cetera. All of these are very complicated components of any large solid rocket motor, whether it be the D–5, the Minuteman III, the Shuttle SRBs, or any follow-on to that. This is what I'm worried about, that we don't lose that formula and expertise for being able to address all the engineering challenges associated with all of those things, not to mention the joints between segments, as we go forward.

Senator BILL NELSON. I think the overall DOD has been taken by surprise in this NASA announcement to cancel. I have clearly let it be known my displeasure. Here it comes back to one hand of

the Government not knowing what the other hand of the Government is doing. There should have been this kind of consultation.

I would encourage you, as one of the major commanders, to weigh in your feelings about this, because there's going to have to be a decision made very soon, with regard to whether or not this industrial base is going to continue. When I say very soon, I have put additional money in the budget resolution, that we are in committee today on, to give some flexibility for the future that NASA could continue this testing. But, decisions are going to be made come June in our authorizing committee. They're going to be made come July in the Appropriations Committee. So, this is upon us. I urge you, use all deliberate dispatch.

Madam Secretary, I just want to say that, for any one of our colleagues to ascend to the heights of power and prestige that you have, my compliments to you. I want to ask you about what progress you thought was made, in this recent Nuclear Security Summit, on the goal of a nuclear lockdown on the proliferation.

Ms. TAUSCHER. Thank you very much, Senator. It's good to see you. I'm honored to be here.

I think that, first of all, this was an historic summit. It was the first time in decades that we've had so many heads of state come. This is an issue that, when your former colleague, President Obama, was in the Senate, was something that he believed to be a primary threat to the American people and the stabilization of the world community. The idea that there were more states acquiring nuclear weapons than ever before, and that nuclear security has become an issue that we all have to deal with. It's not just the responsibility of the P5 nuclear-weapon states, but it's everyone's responsibility, because everyone has to patrol their borders, everyone has to deal with export controls, everyone has to deal with the ambitions of terrorists and others that are around the world.

I think that the deliverables at the summit were very significant. There were two big baskets of deliverables. The first one was, the United States and Russia, after 10 years, signed the Plutonium Disposition Agreement, which commits both countries to moving toward elimination of plutonium, enough plutonium to make 17,000 nuclear weapons. So, this is a sizable commitment, to eliminate this plutonium.

The second was a basket of highly-enriched uranium (HEU) offerings from countries like Chile, Canada, Mexico, and Ukraine, where they will eliminate their HEU and actually have both the United States and Russia work to eliminate that HEU.

I think that it was significant, from a policy standpoint. It was significant, from the fact that there were real deliverables, of lessening significantly both plutonium and HEU that is in the world.

I think, probably most significantly, it added to the debate and heightened the sense of awareness, to average Americans and people all over the world, that this is, indeed, a 21st century problem that is going to take lots of people and, frankly, a lot of political will to abate. But, these ambitions of states to get nuclear weapons, and making sure that we have secured both the know-how, the material, and the weapons themselves, significantly, both by diminishing their numbers but also by making investments in keeping

them secure, is a priority of the President and, certainly, those heads of state were there and many others.

I think it was a very big success. The Republic of Korea has agreed to host the 2012 Nuclear Security Summit. This was originally an idea that was meant to be a one-time thing. But, it was such a big success and, I think, accrued to the American people such big national security gains, that we're very happy to see the Republic of Korea host the 2012 Nuclear Security Summit.

Senator BILL NELSON. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you very much, Senator Nelson.

You don't have any additional questions, I don't either.

We are very grateful to this panel for your terrific work in this area. You have proposed a number of documents here and important treaties and reviews, which will set the direction of this country for decades, in an area that is of critical importance to the world, to world security, to the fight against terrorism. Your involvement, all of you, is a major contribution to our security, and we're grateful for it. We're grateful for your being here today.

We will stand adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR ROLAND W. BURRIS

STRATEGIC ARMS REDUCTION TREATY

1. Senator BURRIS. Secretary Tauscher, Dr. Miller, General Chilton, and Mr. D'Agostino, the New Strategic Arms Reduction Treaty (START) agreement addresses the nuclear stockpile levels and the number of weapons each nation can maintain. Does the new START agreement address the enforcement of this agreement?

Secretary TAUSCHER and Dr. MILLER. The New START treaty limits numbers of deployed warheads and their delivery vehicles. The treaty contains a comprehensive verification regime to monitor compliance with its requirements. The New START treaty created the Bilateral Consultative Commission (BCC) to support implementation of the treaty provisions. The BCC will provide a forum for discussion and resolution of compliance issues, implementation questions, and continued strategic dialogue. Ultimately, a party may withdraw from the treaty if extraordinary events jeopardize its supreme interests. This could include a material breach by the other party's noncompliance with obligations imposed by the treaty.

General CHILTON. Yes. The New START treaty establishes the BCC as a compliance and implementation body that will meet at least twice each year, unless otherwise agreed. Compliance and implementation questions may be raised by either party in the BCC.

Mr. D'AGOSTINO. Yes, the New START treaty establishes central limits for strategic offensive arms that must be met within 7 years after entry into force, and provides a comprehensive regime to verify each party's compliance with these limits and with the other provisions of the treaty. The central limits are: 1,550 for deployed strategic warheads; 700 for deployed intercontinental ballistic missiles (ICBM), submarine-launched ballistic missiles (SLBM), and heavy bombers equipped for nuclear armaments; and 800 for deployed and nondeployed ICBM launchers, SLBM launchers, and heavy bombers. The verification regime to assess compliance is based in part on the experiences gained by the United States and Russia through the implementation of the 1991 START treaty, and includes elements that are specifically tailored to verify the limitations and provisions of the new treaty. Any concern identified regarding a party's compliance with its treaty obligations can be raised by the other party through the treaty's BCC, which is the compliance and implementation body that will meet at least twice each year, unless otherwise agreed.

2. Senator BURRIS. Secretary Tauscher, Dr. Miller, General Chilton, and Mr. D'Agostino, has there been any discussion about how nations who are party to the agreement will ensure all parties are meeting their obligations?

Secretary TAUSCHER and Dr. MILLER. The New START treaty contains detailed monitoring and transparency provisions that supplement National Technical Means

(NTMs) to form an effective verification regime. There are provisions for data exchanges and notifications regarding strategic offensive systems and facilities covered by the treaty, up to 18 onsite inspections each year, and exhibitions of new systems entering treaty accountability. The Protocol to the treaty further elaborates the rights and obligations associated with the verification measures set forth in the treaty, while annexes to the treaty lay out key details of how each of the verification measures is to be implemented.

The New START treaty created the BCC to promote the objectives and implementation of the treaty provisions. The BCC will provide a forum for discussion and resolution of compliance issues, implementation questions, and continued strategic dialogue. Issues that are not resolved in the BCC can be escalated to diplomatic channels and if necessary to the highest levels of government. If there were a material breach by the other party arising from noncompliance with obligations imposed by the treaty, international law provides that a party can suspend its obligations in whole or in part. Ultimately, a party may withdraw from the treaty if extraordinary events jeopardize its supreme interests.

General CHILTON. Yes. Verification measures have been built into the New START treaty to monitor compliance. The treaty contains a verification regime that builds on lessons learned from 15 years of implementing START. This regime includes unencumbered use of NTMs, data exchanges and notifications regarding strategic systems and facilities, two types of onsite inspections, exhibitions, and, as a transparency measure, telemetry exchanges. Specifically:

- NTM - The treaty provides for the use of and non-interference with NTM of verification (e.g., satellites). There are explicit provisions that prohibit interference with NTM and the use of concealment measures than may impede monitoring by NTM.
- Data Exchanges and Notifications - The United States and Russia will exchange data on numbers, locations, and technical characteristics of strategic weapon systems and facilities that are subject to the treaty. Additionally, each side will provide regular notifications and data updates.
- Onsite Inspections - There are two types of inspections.
  - Type One inspections focus on ICBM bases, submarine bases, and air bases; that is sites containing both deployed and nondeployed strategic systems.
  - Type Two inspections focus on sites with only nondeployed strategic systems.
  - Inspections include:
    - confirming the number of reentry vehicles on deployed ICBMs and deployed SLBMs,
    - confirming numbers related to nondeployed launcher limits,
    - counting nuclear weapons onboard or attached to deployed heavy bombers,
    - confirming weapon system conversions or eliminations as well as facility eliminations.
  - Each side is allowed to conduct 18 inspections annually: 10 Type One and 8 Type Two.
- Unique Identifiers - Each ICBM, SLBM, and heavy bomber will be assigned a unique identifier (alphanumeric number), which will be included in the applicable notifications and database which may be confirmed during inspections.
- Telemetric Information - During ICBM and SLBM flight tests, measurements of various technical parameters are made to monitor missile performance. To enhance transparency and supplement verification provisions, the parties have agreed to an annual exchange of telemetric information on a parity basis, for up to five ICBM and SLBM launches per year.

Mr. D'AGOSTINO. Yes, the verification regime developed for the New START treaty provides the United States and Russia the means to verify each other's compliance with their treaty obligations. The verification regime includes data exchanges and notifications regarding strategic offensive arms and facilities covered by the treaty, two types of onsite inspections, exhibitions, and provisions to facilitate the use of NTMs for verifying compliance with provisions of the treaty. Either party may raise questions relating to treaty compliance through the BCC, which is the treaty's compliance and implementation body that will meet at least twice each year, unless otherwise agreed.

IRAN AND NORTH KOREA

3. Senator BURRIS. Secretary Tauscher, Iran and North Korea have been pursuing technology for nuclear weapons. Was there any discussion about the fact that Iran and North Korea are trying to develop nuclear weapons?

Secretary TAUSCHER. While the United States and Russia frequently discuss the problems of Iran and North Korea pursuing development of nuclear weapons, this was not a topic of discussion in the negotiation of the bilateral New START treaty.

4. Senator BURRIS. Secretary Tauscher, will the New START agreement change if Iran and North Korea manage to develop nuclear weapons?

Secretary TAUSCHER. No. The New START treaty is a bilateral agreement designed to stabilize the strategic balance between the United States and the Russian Federation at lower levels of nuclear forces. It is not linked to development of nuclear weapons by other countries, including Iran or North Korea. The United States will sustain safe, secure, and effective nuclear forces to deter any potential adversary as long as nuclear weapons exist.

NATIONAL NUCLEAR SECURITY ADMINISTRATION

5. Senator BURRIS. Mr. D'Agostino, you mentioned that the National Nuclear Security Administration (NNSA) intends to coordinate with the Department of Defense (DOD) in order to develop a new Stockpile Stewardship and Management Plan (SSMP) to Congress. When do you anticipate being able to present this plan, and what key points will it address?

Mr. D'AGOSTINO. The NNSA SSMP was delivered to Congress on June 16, 2010. This plan details our approach for modernizing the infrastructure, managing the stockpile, and sustaining the science and technology base that underpins the nuclear security enterprise. The SSMP is aligned with the 2010 Nuclear Posture Review (NPR) Report, the congressionally mandated Stockpile Management Program, and U.S. nonproliferation goals, and is the NNSA plan for maintaining a safe, secure, and effective nuclear stockpile without a need to resume nuclear testing.

As identified in the NPR and detailed in the SSMP, our long-term strategy is to manage our aging stockpile through infrastructure modernization, warhead life extensions, and a world-class science and technology base. Two major production facilities are essential to the infrastructure modernization effort: the Chemistry and Metallurgy Research Replacement nuclear facility at Los Alamos for plutonium research and development and the Uranium Processing Facility at Y–12 in Tennessee where we carry out HEU operations. Warhead life extensions will be carried out on a case-by-case basis, seeking to increase stockpile safety, security, and effectiveness. This plan does not pursue new military capabilities or missions for our warheads, nor will we perform nuclear tests. Finally, accomplishing these SSMPs requires a highly capable Federal and contractor workforce with the specialized skills needed to sustain the nuclear deterrent and support-related national security goals.

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

AFFORDABILITY OF IMPLEMENTING THE NUCLEAR POSTURE REVIEW

6. Senator MCCAIN. Dr. Miller, General Chilton, and Mr. D'Agostino, the NPR sets forth a broad vision that must not be viewed outside of the realm of affordability. As I mentioned earlier, the cost alone for modernizing, both the nuclear weapons complex and the triad, is substantial. As we move to reduce our nuclear stockpile, this modernization effort becomes all the more important. Factoring in the cost of a missile defense and a prompt global strike—both essential and critical, but also costly, programs—the overall budget outlook seems to suggest steady increases for the foreseeable future. What is the near-term and long-term affordability of implementing the NPR?

Dr. MILLER. The cost of implementing the NPR is affordable. Current best-estimates are provided in the administration's report prepared in response to section 1251 of the National Defense Authorization Act (NDAA) for Fiscal Year 2010.

General CHILTON. The NPR clearly articulates the enduring value of the triad in our nuclear posture. At the same time, we are facing a significant period of recapitalization of the nuclear enterprise. It will take the commitment of the administration and Congress to ensure a safe, secure, and effective (albeit smaller) deterrent force. We are working very hard to carefully study the requirements and tradespace

to make the most cost-effective investments, while looking for leveraging opportunities and innovative ways to meet our national security commitments.

Mr. D'AGOSTINO. The President's budget request for fiscal year 2011 provides the resources for NNSA to accomplish its mission in fiscal years 2011–2015. This funding is both essential and necessary for regaining key NNSA nuclear weapons capabilities and sustaining the core workforce and infrastructure that underwrite the nuclear mission. The President's submittal demonstrates a long-term, executable commitment to a safe, secure, and effective nuclear deterrent. I recommend the long-term program outlined in the SSMP be adopted by Congress; it will put NNSA on the path to delivering a safe, secure, and effective nuclear deterrent.

7. Senator MCCAIN. Dr. Miller, General Chilton, and Mr. D'Agostino, does the administration intend to upgrade or modernize each leg of the triad?

Dr. MILLER. DOD plans to invest in each leg of the triad to ensure that existing capabilities are adequately sustained with essential upgrades and modifications. Additionally, DOD will seek to modernize systems, as needed, to ensure continuing deterrent capability over the long-term.

General CHILTON. The Services are making investments to maintain a credible nuclear force. Specific actions will be reported to Congress as directed by section 1251 of the 2010 NDAA. U.S. Strategic Command (STRATCOM), with the assigned mission of nuclear deterrence, participates in the process of identifying requirements and advocating for funding for modernization and sustainment of triad forces and weapons. The President's fiscal year 2011 budget provides adequate initial funding to address our Nation's most critical needs to update and modernize our deterrent and global strike capabilities.

Mr. D'AGOSTINO. Over the next 3 decades every nuclear warhead now in the stockpile will require some level of technical attention in order to ensure their continued safety, security, and effectiveness. The technical attention required for each warhead type will vary. Some will require a full life extension while others will only involve the exchange of limited life components. The NNSA will sustain the warheads for every leg of the nuclear triad through a comprehensive process of life extension programs. For each of these life extensions the full spectrum of options will be studied on a case-by-case basis, and the national laboratories will offer their best technical advice for extending the life of a warhead and improving it's safety, security, and effectiveness without adding any new military capabilities, as outlined in the NPR.

FUTURE OF THE TRIAD

8. Senator MCCAIN. Dr. Miller and General Chilton, the NPR states that the United States should retain a smaller nuclear triad. With the exception of the next generation ballistic missile submarine, the NPR says very little about long-term modernization efforts. It recognizes that decisions need to be made on the next generation ICBM and the next generation bomber, but cites little urgency in making those decisions. Given the guidance set forth in the NPR, do you believe our nuclear force structure will include bombers, ICBMs, and ballistic missile submarines 25 years from now? If so, when must a decision be made on pursuing a follow-on ICBM and a follow-on bomber?

Dr. MILLER. U.S. nuclear force structure 25 years from now will depend greatly on any changes to the geopolitical situation, and any future arms control agreements. That said, a diverse force structure has significant advantages for hedging against potential technical problems or vulnerabilities. The Air Force plans to sustain the Minuteman III through 2030 as directed by Section 139 of the John Warner NDAA for Fiscal Year 2007, and will initiate studies of possible ICBM follow-on systems in fiscal years 2011–2013. Similarly, the Air Force will retain the B–52 for nuclear mission requirements through 2035 and will provide plans for a follow-on bomber along with the President's budget submission for fiscal year 2012. The Navy has already initiated research and development for the next generation ballistic missile submarine, funding for which began in fiscal year 2010.

General CHILTON. The NPR validates the enduring value of the triad and its complementary capabilities in securing the peace and preventing major conflicts. As we sustain and modernize the triad, our Nation will continue to require a nuclear-capable bomber leg's inherent flexibility to address a wide variety of possible adversaries and contingencies. We are participating in the Office of the Secretary of Defense's (OSD) Long-Range Strike study to identify and assess necessary attributes and capabilities for the next long-range bomber that will meet combatant commanders' needs and ensure no gap in capabilities. We anticipate that the long-range strike

study will be completed in time to inform decisions for the upcoming fiscal year 2012 budget submission. Regarding an ICBM follow-on system, we anticipate initial studies will begin in fiscal year 2011 and an analysis of alternatives will follow shortly thereafter. We are working to ensure life extension upgrades and technology development efforts required to support the Minuteman III from 2020 through 2030 will leverage into a follow-on system.

F–35

9. Senator MCCAIN. General Chilton, the NPR confirms that the Air Force will retain a dual, nuclear and conventional, capable fighter as it replaces the F–16s with the F–35 Joint Strike Fighter. How critical is the timely delivery of the dual-capable F–35 to the extended deterrence mission?

General CHILTON. It is important to preclude a gap in our extended deterrent capabilities. I support Service efforts to field the dual-capable version of the F–35 before end-of-life for the current dual-capable version of the F–16. This is a top priority for both STRATCOM and U.S. European Command. I also support Service efforts to move forward with a limited life extension program of the F–16 fleet, which will provide options to mitigate F–35 schedule risk. The NPR clearly articulates that nuclear-capable fighter aircraft forward-based in Europe are enduring, visible manifestations of our Nation's extended deterrence commitment to NATO, and a key component of a broader strategy to accomplish U.S. nonproliferation and deterrence goals.

NEW STRATEGIC ARMS REDUCTION TREATY LIMITS AND FORCE STRUCTURE

10. Senator MCCAIN. General Chilton, when will Congress be provided the details of the new nuclear force structure as it relates to the New START?

General CHILTON. Force structure details were provided to Congress as part of the NDAA for Fiscal Year 2010 1251 report and as part of the submission package when New START was presented for ratification.

11. Senator MCCAIN. General Chilton, has the analysis been done to support this new force structure and can the committee be provided such analysis?

General CHILTON. Analysis was done throughout the NPR and New START process. I defer to OSD for release of the analysis.

12. Senator MCCAIN. General Chilton, in order to meet the force structure levels for the New START, I assume DOD will need to adjust levels within one or more legs of the triad. If so, which aspects and why?

General CHILTON. Yes, some changes in each leg of the triad will be necessary. We need to continue the conversions of the B–1B to conventional use only and then exhibit those changes and conduct exhibitions of the SSGNs and missile defense silos at Vandenberg to remove from New START accountability. We must also eliminate other delivery vehicles (e.g., 50 Peacekeeper silos, 50 MMIII silos at Malmstrom and B52G and B52H at Davis Monthan) which have been previously removed from the nuclear forces but which were accountable under START I. Beyond these issues, minor force modifications maybe required. This information was provided to Congress as part of the NDAA for Fiscal Year 2010 1251 report and as part of the submission package when New START was presented for ratification.

CONSULTATIONS WITH ALLIES

13. Senator MCCAIN. Secretary Tauscher and Dr. Miller, please describe the consultation that we had with our allies and friends before determining our nuclear posture, force reductions, and extended deterrence.

Secretary TAUSCHER and Dr. MILLER. International perspectives on U.S. nuclear policy and posture were significant components in the NPR analysis and are reflected in the final document. The NPR's International Dimensions Working Group was created to engage with our allies and partners regarding their perceptions of the U.S. nuclear policy and posture. The NPR team held more than 60 consultations with more than 38 individual countries as well as the North Atlantic Council of the NATO alliance, and 11 other countries provided written input. Allies and partners were engaged frequently during the NPR process.

14. Senator MCCAIN. Secretary Tauscher and Dr. Miller, did any of our friends and allies raise any concerns about our new nuclear posture and proposed cuts to our nuclear arsenal?

Secretary TAUSCHER and Dr. MILLER. Allies and partners were engaged frequently during the NPR. International reactions to the NPR since its publication have been very positive, and the administration has received broad support for the recommendations of the NPR as well as proposed reductions under the New START treaty.

15. Senator MCCAIN. Secretary Tauscher and Dr. Miller, please describe how and in what way the NPR was shaped by the ideas and concerns of our allies who depend on the U.S. nuclear umbrella for their own security.

Secretary TAUSCHER and Dr. MILLER. In terms of process, international perspectives on U.S. nuclear policy and posture were significant components in the NPR's analysis and are reflected in the final document. The NPR 's International Dimensions Working Group was created to engage with our allies and partners regarding their perceptions of U.S. nuclear policy and posture. The NPR team held more than 60 consultations with more than 38 individual countries as well as the North Atlantic Council of the NATO alliance, and 11 other countries provided written input.

In terms of product, the NPR report reflects a strong commitment to the U.S. nuclear umbrella. "Strengthening regional deterrence and reassuring U.S. allies and partners" is one of the NPR's five pillars, and two of the NPR's key recommendations are retaining the capability to forward-deploy U.S. nuclear weapons on tactical fighter-bombers and heavy bombers, and to proceed with full-scope life extension for the B–61 bomb.

NUCLEAR PROLIFERATION REVIEW AND NEW WEAPON DESIGN

16. Senator MCCAIN. Mr. D'Agostino, the NNSA's British counterpart, the Atomic Weapons Establishment, cites maintaining a capability to design a new weapon as a cornerstone of its mission. Why do you suspect the British view that maintaining the capability to design a new warhead is critical?

Mr. D'AGOSTINO. The known capability to design a workable nuclear weapon is an essential aspect which underpins the credibility of both U.S. and the U.K. nuclear deterrence. Our position on this topic is the same as the United Kingdom's: we will unambiguously retain this ability. Instead of honing and demonstrating these skills through an ongoing program to design, develop, and test new nuclear weapon designs, such as was done during the Cold War, the NNSA and the United Kingdom have both invested in strengthening our science, technology, and engineering (ST&E) capabilities to sustain these core skills.

As the stockpile decreases in size, the deterrence role of ST&E increases in importance. Our credibility relies on the active engagement of scientists and engineers to understand the aging stockpile in all its complexities, and their ability to respond to future technical and global events. The vigorous engagement of ST&E enables us to annually assess the stockpile, resolve significant finding investigations (discovered departures from design and/or manufacturing specifications), extend nuclear weapon lifetimes, assess other Nations' nuclear capabilities, and dismantle retired weapons. This very challenging technical program and the modern facilities that are supported in the President's budget will serve to attract and maintain the highly-trained and motivated workforce needed to sustain nuclear deterrence, as well as other nuclear and energy security missions.

17. Senator MCCAIN. Mr. D'Agostino, in contrast to the British, the recently released NPR states that the "United States will not develop new nuclear warheads." Do you believe that this statement would foreclose all future considerations to design a new weapon if the need arose?

Mr. D'AGOSTINO. The United States has made the decision not to design and produce new warheads; however, we will preserve our capability for doing so. The capabilities needed to design a new warhead include knowledgeable designers, along with a responsive, capable research and development and manufacturing infrastructure. These are the same capabilities and skill sets utilized when completing weapon life extensions. The NPR recognized the need for increased investment in the Nuclear Security Enterprise stockpile, infrastructure, and ST&E. The decision not to design new warheads should not imply the United States would be unable to do so should national security require it in the future.

18. Senator McCAIN. Mr. D'Agostino, are there any concerns that as a result of this declaration that we will no longer maintain the ability to design a new weapon?

Mr. D'AGOSTINO. See response to question 17. I am confident that the Stockpile Stewardship and Management path upon which we have embarked sustains our capabilities to respond to future world events if necessary.

19. Senator McCAIN. General Chilton, in your best military judgment and advice, do you believe that it is prudent to advocate for eliminating the capability to design a new weapon?

General CHILTON. In the context of sustaining a safe, secure, and effective stockpile, I believe all options should be validated during concept, design, and cost studies. Both the NPR and the congressionally-directed Strategic Posture Review support considering the full range of life extension approaches to ensure the safety, security, and effectiveness of our stockpile. I believe we must preserve sufficient flexibility to meet mandated stockpile management goals. Ultimately, replacement with a new design that uses previously tested components might be necessary to maintain a safe, secure, and effective stockpile. As the United States continues to reduce its nuclear arsenal, we must maintain effective capabilities to support nuclear weapons nonproliferation activities, and provide expert assessment of other nations' nuclear weapons programs in support of non-proliferation goals.

DEPARTMENT OF DEFENSE INFRASTRUCTURE CONTRIBUTION

20. Senator McCAIN. Dr. Miller and Mr. D'Agostino, with the release of the NPR, the Secretary of Defense announced that DOD will be transferring $5 billion over the next 5 years to the Department of Energy (DOE) to address infrastructure modernization needs. This increase is both welcome and absolutely necessary to supplement significant long-term increases in DOE's own budget. How will DOD funding be utilized by the NNSA?

Dr. MILLER. The DOD transfered $4.6 billion of its topline to the NNSA's Weapons Activities appropriation over the period of fiscal years 2011–2015. By mutual agreement, this transfer will support funding for the following:

- Design and initial construction of the Chemistry and Metallurgy Research Replacement Nuclear Facility at Los Alamos and the Uranium Processing Facility at Oak Ridge;
- Increased plutonium manufacturing capacity at the PF–4 facility at Los Alamos;
- Restoration of production rates for the W76 SLBM warhead to meet Navy requirements;
- A B61 bomb life extension program that meets safety, security, and reliability requirements on DOD timelines;
- Initiation of a life extension program for the W78 ICBM and warheads; and
- A revitalized warhead surveillance effort and associated science and technology support.

In addition, the DOD transferred another nearly $1.1 billion of its top-line over fiscal year 2011–2015 for Naval Reactors, to support reactor design and development.

Mr. D'AGOSTINO. The DOD transferred almost $4.6 billion in top-line over the period fiscal years 2011–2015 to the NNSA's Weapons Activities for infrastructure enhancement, life extension programs, and enhanced stockpile stewardship. The DOD also transferred almost $1.1 billion to Naval Reactors to support reactor design and development for the next generation ballistic missile submarine.

The President's budget request, if appropriated, will fund:

- Design and initial construction of the Chemistry and Metallurgy Research Replacement Nuclear Facility at Los Alamos;
- Design and initial construction of the Uranium Processing Facility at Oak Ridge;
- A sustainable plutonium pit manufacturing capacity at the PF–4 facility at Los Alamos;
- Restoration of full production rates for the W76 SLBM warhead by the end of fiscal year 2013 to meet Navy requirements;
- A life extension program study and follow-on activities for the B61 bomb that meet safety, security, and reliability requirements and DOD timelines;
- Initiation of a study of life extension program options for the W78 ICBM warhead; and

• A revitalized warhead surveillance effort and associated science and technology support.

21. Senator MCCAIN. Dr. Miller and Mr. D'Agostino, can you confirm that DOE will not reduce its future years spending requests for the NNSA as a result of the DOD contribution?

Dr. MILLER. The administration, including both DOE and DOD, is committed to sustaining full funding for the NNSA. Our plan, described in the report submitted in response to the NDAA for Fiscal Year 2010, section 1251, calls for sustained investments at higher levels so that over the next decade the United States will have invested about $80 billion in the NNSA nuclear weapons activities. This plan shows investments for NNSA continuing to grow above the fiscal year 2011 request; DOE is committed to continuing to make spending requests that represent full and adequate funding.

Mr. D'AGOSTINO. The DOD funding contribution to NNSA is not expected to be an annual practice. The NNSA will submit budget requests in the future that reflect NNSA needs. The NNSA will not rely on supplementary funding from other agencies to execute its mission.

QUESTIONS SUBMITTED BY SENATOR SAXBY CHAMBLISS

DETERRENCE

22. Senator CHAMBLISS. General Chilton, you comment in your written statement that, "The nuclear enterprise remains, today and for the foreseeable future, the foundation of U.S. deterrence strategy and defense posture." I am pleased to hear you say that because, with all the talk about nuclear weapons over the last several months, the overwhelming emphasis has been on reducing their number, and perhaps rightfully so. However, the fact remains that our nuclear weapons have served an extremely valuable purpose for decades, and that purpose is to guarantee the security of the United States and our allies, and no other weapon in our arsenal provides that security the way nuclear weapons do. I hope your perspective is not lost on those in the administration making these recommendations. What are your comments on this issue?

General CHILTON. I am confident that this perspective has not been lost. The NPR delineates this perspective well and if the concepts articulated in it are carried out, especially regarding the nuclear infrastructure, I believe our nuclear enterprise and the associated deterrence and assurance it provides will remain strong and credible.

NUCLEAR NONPROLIFERATION TREATY

23. Senator CHAMBLISS. Secretary Tauscher and Dr. Miller, under the declaratory policy outlined in the new NPR, would the United States have been able to make the same threats directed against Saddam Hussein's Iraq with regards to their potential employment of chemical and biological weapons against Israel or Saudi Arabia during the Persian Gulf War, given that Iraq was a signatory to the Nuclear Nonproliferation Treaty (NNPT) and that we believed, at that time, that Iraq was in compliance with their NNPT obligations?

Secretary TAUSCHER and Dr. MILLER. Yes, the United States would have been able to threaten possible use of nuclear weapons against Saddam Hussein's Iraq at the time of the Gulf War. The revised Negative Security Assurance described in the NPR is applicable to non-nuclear weapons states that are party to the NPT and in compliance with their nuclear nonproliferation obligations. This was not the case for Iraq. The joint resolution passed by the U.S. Congress on January 1991 authorizing the use of military force against Iraq specifically noted Iraq's nuclear weapons program as a grave threat.

24. Senator CHAMBLISS. General Chilton, in your responses to advanced policy questions for your nomination to be Commander of STRATCOM in 2007, you stated the following: "A credible U.S. nuclear deterrent . . . assures allies that the United States will deter, prevent, or limit damage to them from adversary attacks. This removes incentives for many of them to develop and deploy their own nuclear forces, thereby encouraging nonproliferation." Do you still agree with your statement of 2007 and, in your opinion, does our most recent NPR continue to assure allies that the United States will deter, prevent, or limit damage to them from adversary attacks?

General CHILTON. Yes, I still agree with that statement and that the most recent NPR supports it. If the concepts articulated in the NPR are carried out, especially regarding the nuclear infrastructure, I believe our nuclear enterprise and the associated deterrence and assurance it provides will remain strong and credible.

U.S. AND RUSSIAN INTERCONTINENTAL BALLISTIC MISSILES

25. Senator CHAMBLISS. Secretary Tauscher and Dr. Miller, how does de-MIRVing of the U.S. ICBMs increase stability if, in turn, the Russians do not do the same?

Secretary TAUSCHER and Dr. MILLER. The increased stability achieved by removing Multiple Independently-targetable Reentry Vehicle capability (de-MIRVing) from U.S. ICBMs is not dependent on Russia de-MIRVing its nuclear force. Stability is increased because single warhead ICBMs in geographically dispersed hardened silos require an adversary contemplating attack to use more warheads in attacking ICBMs than the number of U.S. warheads they would destroy.

B–52 UNDER STRATEGIC ARMS REDUCTION TREATY

26. Senator CHAMBLISS. Dr. Miller and General Chilton, the NPR recommends modifying some of our B–52s into conventional only platforms. How many B–52s does DOD plan to modify and to what extent might it be necessary to disable bombers at the Air Force boneyard at Davis-Monthan Air Force Base to ensure they are not deployable and do not count under the New START?

Dr. MILLER. Force structure plans under the New START treaty call for up to 60 deployed nuclear-capable heavy bombers, including 18 deployable B–2s for the nuclear mission. The Air Force currently has 76 operational B–52Hs in the strategic nuclear force structure. The Air Force will study options for the number of B–52s to convert to a conventional only role. The Department plans to eliminate 51 B–52Gs, 12 B–1Bs, and 13 B–52Hs currently stored at Davis-Monthan Air Force Base once the New START treaty enters into force.

General CHILTON. NPR guidance is to retain both the B–2 and B–52, and convert some of the latter to a conventional-only role to meet the New START treaty central limits for deployed and non-deployed strategic delivery systems. No final decision has been made on force structure. We are working with OSD, the Joint Staff, and the Services to identify options and will report at the earliest opportunity. It is likely that some number of the platforms previously accountable under START I (e.g. bombers at the Aerospace Maintenance and Regeneration Group facility at Davis-Monthan AFB, AZ) will be eliminated. The conversion of a portion of the B–52 force to conventional-only will allow the Air Force to retain sufficient dual-capable B–52s to support conventional requirements while providing extended nuclear deterrence to our allies, deter our adversaries, and maintain a hedge against future uncertainty.

NEW NUCLEAR WARHEADS

27. Senator CHAMBLISS. Secretary Tauscher and Dr. Miller, the NPR states clearly that the United States will not develop any new nuclear warheads. If developing a new nuclear warhead could offer a means of making our nuclear weapons more secure, reliable, effective, and safe, and doing so did not create a warhead with any new military capabilities, why would the administration not consider doing so?

Secretary TAUSCHER and Dr. MILLER. We are confident that the full range of life extension programs—refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components—will allow the United States to sustain a safe, secure, and effective nuclear arsenal. This policy to not develop new nuclear warheads means that life extension programs will only use nuclear components based on previously tested designs, and the laboratory directors have stated: "We believe that the approach outlined in the NPR, which excludes further nuclear testing and includes the consideration of the full range of life extension options (refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components based on previously tested designs), provides the necessary technical flexibility to manage the nuclear stockpile into the future with an acceptable level of risk."

QUESTIONS SUBMITTED BY SENATOR DAVID VITTER

NUCLEAR ENTERPRISE SUSTAINMENT PROJECTS

28. Senator VITTER. General Chilton, you mentioned the need to move forward with nuclear enterprise sustainment projects. Among these you specifically mention the need to maintain a safe, effective stockpile, which I take to mean, not just the nuclear warheads but the missiles as well, and extend production of the Minuteman III and begin studies to develop a replacement ICBM for the Minuteman III. In your opinion, does the President's decision to cancel National Aeronautics and Space Administration's (NASA) Constellation Program and move to reliance on commercial providers for launch vehicles for manned space flight, which effectively removes NASA as a customer for large rockets and solid rocket motors, have a negative impact on our Nation's ability to move forward with one or all of those nuclear enterprise sustainment projects you mentioned?

General CHILTON. NASA has always been a very large part of the solid rocket motor industrial base. We anticipate the Constellation program cancellation will impact the cost to recapitalize our Air Force and Navy ballistic missile forces in the future; however, the extent of this impact is unknown at this time. We look forward to the results of Secretary Carter's Acquisition, Technology, and Logistics (AT&L)-led task force study on this issue.

29. Senator VITTER. General Chilton, it is my understanding that the President's plans to remove NASA as a primary customer for large rockets and solid rocket motors would lead to an increase in costs for DOD missiles and solid rocket motors, jeopardize the viability of single-source suppliers for certain components used on both space launch vehicles and ICBMs, and also put us in great risk of losing the remainder of our Nation's already greatly-reduced large rocket and solid rocket motor workforce, leaving us with few, if any, of the engineers who know how to build and maintain these complex machines. Do you agree with those assessments? If so, could you elaborate on them in detail?

General CHILTON. Until the OSD/AT&L study is complete, it is premature to speculate on the extent of the impact to our industrial base and intellectual capital as the solid rocket motor industry adjusts to the Constellation program cancellation. We look forward to the results of Secretary Carter's AT&L-led task force study on this important issue. I do think it is important that prudent investments are made in propulsion to ensure we can meet our Nation's strategic needs.

30. Senator VITTER. General Chilton, in your estimation, do the President's plans for NASA present a direct challenge to and potentially jeopardize the viability of our Nation's nuclear deterrent, specifically to our ICBM fleet?

General CHILTON. We do not believe the President's decision to terminate the Constellation program presents a direct challenge to the viability of our ICBM force. The Air Force is completing a series of programs to sustain the ICBM force and we are confident Minuteman III is viable and sustainable through 2030. Looking ahead, we anticipate new challenges across the entire industrial base which will impact both the capacity and costs associated with supporting the Minuteman III in the future. A viable solid rocket motor industrial base is a critical part of the broader industrial base needed to maintain a safe, secure, and effective ICBM force and we look forward to the results of Secretary Carter's AT&L-led task force study on this important issue.

U.S. AND CHINESE STOCKPILES

31. Senator VITTER. Secretary Tauscher, Dr. Miller, General Chilton, and Mr. D'Agostino, the NPR expresses the intention to further reduce our nuclear deterrent below the START follow-on levels. The NPR also highlights the lack of transparency of China's nuclear program. Is there a concern that further U.S. reductions could prompt China to increase their nuclear stockpile?

Secretary TAUSCHER and Dr. MILLER. China's military modernization programs, including its nuclear modernization, are a significant concern which we watch closely. However, China presently does not 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 the nuclear disarmament and global nonproliferation efforts. We look to China to be more transparent about its strategic programs and to show restraint in them.

As the United States and Russia conduct bilateral negotiations to reduce nuclear arsenals further, the United States will seek greater transparency and assurances from China that it will restrain its nuclear modernization.

General CHILTON. Until the scope of the "further reductions" is understood, it is difficult to speculate on how China would view further reductions. However, I believe that whether or not China chooses to increase their arsenal is dependent upon a much broader geopolitical context than just the size of the U.S. and Russian arsenals.

Mr. D'AGOSTINO. The NPR states,

> "The United States and China are increasingly interdependent and their shared responsibilities for addressing global security threats, such as WMD proliferation and terrorism, are growing. The United States welcomes a strong, prosperous, and successful China that plays a greater global role in supporting international rules, norms, and institutions.
>
> "At the same time, the United States and China's Asian neighbors remain concerned about the pace and scope of China's current military modernization efforts, including its quantitative and qualitative modernization of its nuclear capabilities. China's nuclear arsenal remains much smaller than the arsenal of Russia and the United States. But the lack of transparency surrounding its programs—their pace and scope as well as the strategy and doctrine guiding them—raises questions about China's future strategic intentions."

QUESTIONS SUBMITTED BY SENATOR SUSAN COLLINS

NUCLEAR NONPROLIFERATION TREATY

32. Senator COLLINS. Secretary Tauscher, the proposed Negative Security Assurance policy states that the United States will not use nuclear weapons against non-nuclear countries which have signed the NNPT and are in compliance with the NNPT. Who decides if a country is in compliance with the NNPT?

Secretary TAUSCHER. As part of the NPR, the United States strengthened its long-standing Negative Security Assurance by declaring that the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Nonproliferation Treaty (NPT) and in compliance with their nuclear nonproliferation obligations, which would include, inter alia, a state's obligations under its safeguards agreement with the International Atomic Energy Agency (IAEA).

The United States renders its own independent compliance judgments. In this regard, we note that, pursuant to section 403 of the Arms Control and Disarmament Act, as amended, the administration submits a detailed annual assessment of other nations' adherence to their NPT obligations and other nuclear nonproliferation agreements or commitments to which the United States is a participating state.

33. Senator COLLINS. Secretary Tauscher, is the administration prepared to make assessments of each country's compliance with the NNPT separately from the IAEA, or will we rely on the judgments of the IAEA Board of Governors, which currently includes Russia, China, Venezuela, and Cuba in its membership, to determine which countries are in compliance with the NNPT?

Secretary TAUSCHER. The Board of Governors of the IAEA plays a role in determining noncompliance with safeguards agreements, but not regarding the NPT itself. Although our compliance findings may be informed by information from other entities, such as the IAEA, the United States renders its own compliance judgments. In this regard, we note that, pursuant to section 403 of the Arms Control and Disarmament Act, as amended, the administration submits a detailed annual assessment of other nations' adherence to their NPT obligations and other nuclear nonproliferation agreements or commitments to which the United States is a participating state.

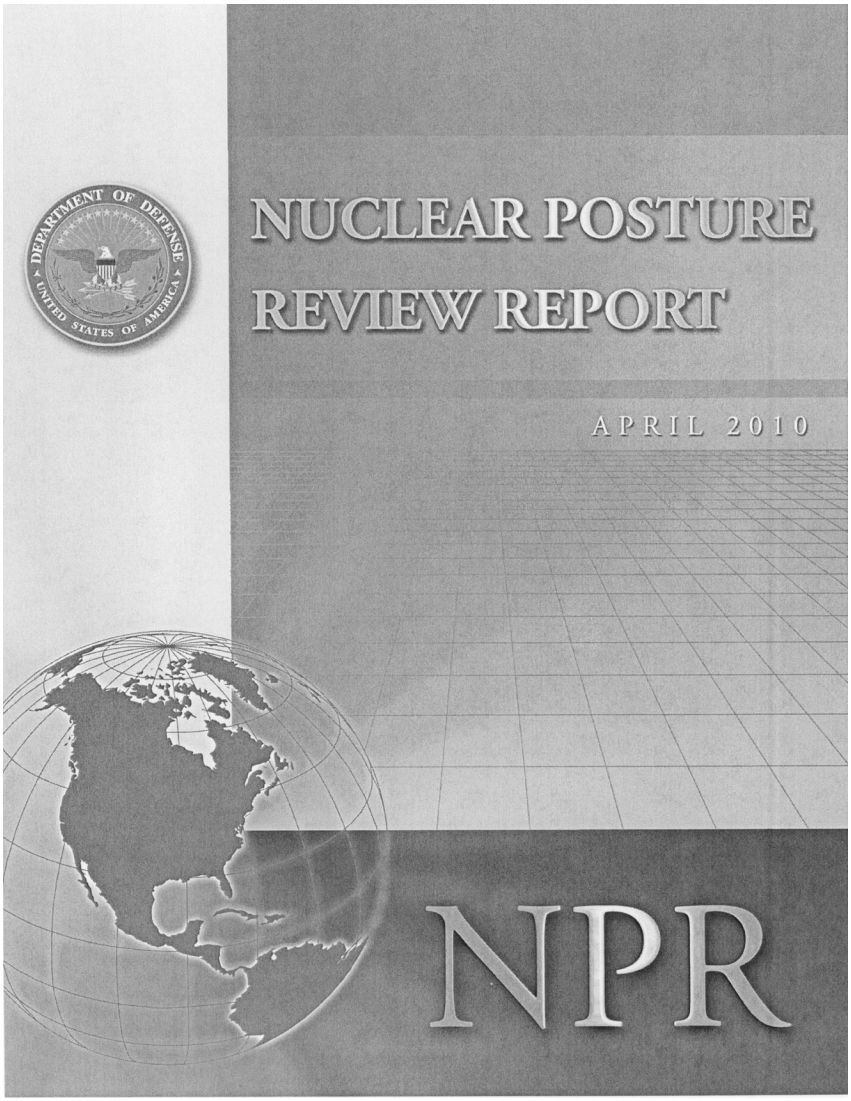
34. Senator COLLINS. Secretary Tauscher, if the United States relies on the assessment of the IAEA, are we putting the countries which sit on the IAEA Board of Governors in a position to dictate how we can respond to certain attacks?

Secretary TAUSCHER. Although our compliance findings may be informed by information from other entities such as the IAEA, the United States renders its own independent compliance judgments, including with respect to compliance with IAEA safeguards agreements.

35. Senator COLLINS. Secretary Tauscher, if the United States will establish its own assessment of each country's compliance with the NNPT, does this undermine U.S. credibility in working with our allies and other nations in reducing nuclear proliferation?

Secretary TAUSCHER. No. The United States has been assessing other nations' compliance for as long as the NPT has been in force. That practice has in no way undermined our credibility in working with our allies and other nations in reducing nuclear proliferation.

[The Nuclear Posture Review Report follows:]



Nuclear Posture Review Report

April 2010

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SECRETARY OF DEFENSE
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April 6, 2010

This Nuclear Posture Review provides a roadmap for implementing President Obama's agenda for reducing nuclear risks to the United States, our allies and partners, and the international community. As the President said in Prague last year, a world without nuclear weapons will not be achieved quickly, but we must begin to take concrete steps today.

This NPR places the prevention of nuclear terrorism and proliferation at the top of the U.S. policy agenda, and describes how the United States will reduce the role and numbers of nuclear weapons. Efforts like the New Strategic Arms Reduction Treaty with Russia, the Nuclear Security Summit, our work to strengthen the nuclear nonproliferation regime, and a broader approach to deterrence are central elements of this strategy.

At the same time, as long as nuclear weapons exist, the United States must sustain a safe, secure, and effective nuclear arsenal – to maintain strategic stability with other major nuclear powers, deter potential adversaries, and reassure our allies and partners of our security commitments to them.

The NPR calls for making much-needed investments to rebuild America's aging nuclear infrastructure. To this end, I asked for nearly $5 billion to be transferred from the Department of Defense to the Department of Energy over the next several years. These investments, and the NPR's strategy for warhead life extension, represent a credible modernization plan necessary to sustain the nuclear infrastructure and support our nation's deterrent. They will also enable further arms reductions by allowing us to hedge against future threats without the need for a large non-deployed stockpile.

From beginning to end, this review was an interagency effort, and as such reflects the strength of what can be accomplished when our government's departments work in concert. The steps outlined in this report will take years, and, in some cases, decades to complete. Implementing them will be the work of multiple administrations and Congresses, and will require sustained bipartisan consensus.

In closing, I would like to thank those men and women at the Departments of Defense and Energy, including the national labs, who are critical to sustaining our nuclear arsenal. Their important work underwrites the security of the United States as well as our partners and allies.

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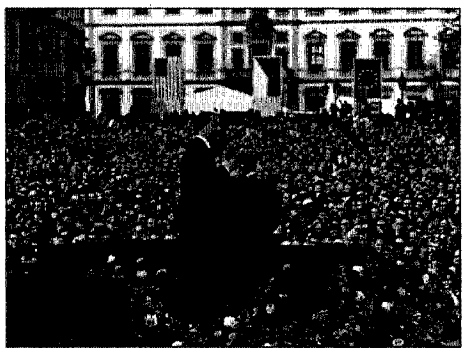
EXECUTIVE SUMMARY

In his April 2009 speech in Prague, President Obama highlighted 21st century nuclear dangers, declaring that to overcome these grave and growing threats, the United States will "seek the peace and security of a world without nuclear weapons." He recognized that such an ambitious goal could not be reached quickly – perhaps, he said, not in his lifetime. But the President expressed his determination to take concrete steps toward that goal, including by reducing the number of nuclear weapons and their role in U.S. national security strategy. At the same time, he pledged that as long as nuclear weapons exist, the United States will maintain a safe, secure, and effective arsenal, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments.



President Barack Obama unveils his vision for reducing nuclear dangers and pursuing the long-term goal of a world without nuclear weapons in Prague's Hradcany Square on Apr. 5, 2009. Official White House photo by Lawrence Jackson.

The 2010 Nuclear Posture Review (NPR) outlines the Administration's approach to promoting the President's agenda for reducing nuclear dangers and pursuing the goal of a world without nuclear weapons, while simultaneously advancing broader U.S. security interests. The NPR reflects the President's national security priorities and the supporting defense strategy objectives identified in the 2010 Quadrennial Defense Review.

After describing fundamental changes in the international security environment, the NPR report focuses on five key objectives of our nuclear weapons policies and posture:

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

While the NPR focused principally on steps to be taken in the next five to ten years, it also considered the path ahead for U.S. nuclear strategy and posture over the longer term. Making sustained progress to reduce nuclear dangers, while ensuring security for ourselves and our allies and partners, will require a concerted effort by a long succession of U.S. Administrations and Congresses. Forging a sustainable consensus on the way ahead is critical.

The Changed – and Changing – International Security Environment

The international security environment has changed dramatically since the end of the Cold War. The threat of global nuclear war has become remote, but the risk of nuclear attack has increased.

As President Obama has made clear, today's most immediate and extreme danger is nuclear terrorism. Al Qaeda and their extremist allies are seeking nuclear weapons. We must assume they would use such weapons if they managed to obtain them. The vulnerability to theft or seizure of vast stocks of such nuclear materials around the world, and the availability of sensitive equipment and technologies in the nuclear black market, create a serious risk that terrorists may acquire what they need to build a nuclear weapon.

Today's other pressing threat is nuclear proliferation. Additional countries – especially those at odds with the United States, its allies and partners, and the broader international community – may acquire nuclear weapons. In pursuit of their nuclear ambitions, North Korea and Iran have violated non-proliferation obligations, defied directives of the United Nations Security Council, pursued missile delivery capabilities, and resisted international efforts to resolve through diplomatic means the crises they have created. Their provocative behavior has increased instability in their regions and could generate pressures in neighboring countries for considering nuclear deterrent options of their own. Continued non-compliance with non-proliferation norms by these and other countries would seriously weaken the Nuclear Non-Proliferation Treaty (NPT), with adverse security implications for the United States and the international community.

While facing the increasingly urgent threats of nuclear terrorism and nuclear proliferation, the United States must continue to address the more familiar challenge of ensuring strategic stability with existing nuclear powers – most notably Russia and China. Russia remains America's only peer in the area of nuclear weapons capabilities. But the nature of the U.S.-Russia relationship has changed fundamentally since the days of the Cold War. While policy differences continue to arise between the two countries and Russia continues to modernize its still-formidable nuclear forces, Russia and the United States are no longer adversaries, and prospects for military confrontation have declined dramatically. The two have increased their cooperation in areas of shared interest, including preventing nuclear terrorism and nuclear proliferation.

The United States and China are increasingly interdependent and their shared responsibilities for addressing global security threats, such as weapons of mass destruction (WMD) proliferation and terrorism, are growing. At the same time, the United States and China's Asian neighbors remain concerned about China's current military modernization efforts, including its qualitative and quantitative modernization of its nuclear arsenal. China's nuclear arsenal remains much smaller than the arsenals of Russia and the United States. But the lack of transparency surrounding its nuclear programs – their pace and scope, as well as the strategy and doctrine that guides them – raises questions about China's future strategic intentions.

These changes in the nuclear threat environment have altered the hierarchy of our nuclear concerns and strategic objectives. In coming years, we must give top priority to discouraging additional countries from acquiring nuclear weapons capabilities and stopping terrorist groups from acquiring nuclear bombs or the materials to build them. At the same time, we must continue to maintain stable strategic relationships with Russia and China and counter threats posed by any emerging nuclear-armed states, thereby protecting the United States and our allies and partners against nuclear threats or intimidation, and reducing any incentives they might have to seek their own nuclear deterrents.

Implications for U.S. Nuclear Weapons Policies and Force Posture

The massive nuclear arsenal we inherited from the Cold War era of bipolar military confrontation is poorly suited to address the challenges posed by suicidal terrorists and unfriendly regimes seeking nuclear weapons. Therefore, it is essential that we better align our nuclear policies and posture to our most urgent priorities – preventing nuclear terrorism and nuclear proliferation.

This does not mean that our nuclear deterrent has become irrelevant. Indeed, as long as nuclear weapons exist, the United States will sustain safe, secure, and effective nuclear forces. These nuclear forces will continue to play an essential role in deterring potential adversaries and reassuring allies and partners around the world.

But fundamental changes in the international security environment in recent years – including the growth of unrivaled U.S. conventional military capabilities, major improvements in missile defenses, and the easing of Cold War rivalries – enable us to fulfill those objectives at significantly lower nuclear force levels and with reduced reliance on nuclear weapons. Therefore, without jeopardizing our traditional deterrence and reassurance goals, we are now able to shape our nuclear weapons policies and force structure in ways that will better enable us to meet our most pressing security challenges.

- By reducing the role and numbers of U.S. nuclear weapons – meeting our NPT Article VI obligation to make progress toward nuclear disarmament – we can put ourselves in a

much stronger position to persuade our NPT partners to join with us in adopting the measures needed to reinvigorate the non-proliferation regime and secure nuclear materials worldwide.

- By maintaining a credible nuclear deterrent and reinforcing regional security architectures with missile defenses and other conventional military capabilities, we can reassure our non-nuclear allies and partners worldwide of our security commitments to them and confirm that they do not need nuclear weapons capabilities of their own.
- By pursuing a sound Stockpile Management Program for extending the life of U.S. nuclear weapons, we can ensure a safe, secure, and effective deterrent without the development of new nuclear warheads or further nuclear testing.
- 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, accelerate dismantlement of retired warheads, and improve our understanding of foreign nuclear weapons activities.
- By promoting strategic stability with Russia and China and improving transparency and mutual confidence, we can help create the conditions for moving toward a world without nuclear weapons and build a stronger basis for addressing nuclear proliferation and nuclear terrorism.
- By working to reduce the salience of nuclear weapons in international affairs and moving step-by-step toward eliminating them, we can reverse the growing expectation that we are destined to live in a world with more nuclear-armed states, and decrease incentives for additional countries to hedge against an uncertain future by pursuing nuclear options of their own.

Preventing Nuclear Proliferation and Nuclear Terrorism

As a critical element of our effort to move toward a world free of nuclear weapons, the United States will lead expanded international efforts to rebuild and strengthen the global nuclear non-proliferation regime – and for the first time, the 2010 NPR places this priority atop the U.S. nuclear agenda. Concerns have grown in recent years that we are approaching a nuclear tipping point – that unless today's dangerous trends are arrested and reversed, before very long we will be living in a world with a steadily growing number of nuclear-armed states and an increasing likelihood of terrorists getting their hands on nuclear weapons.

The U.S. approach to preventing nuclear proliferation and nuclear terrorism includes three key elements. First, we seek to bolster the nuclear non-proliferation regime and its centerpiece, the NPT, by reversing the nuclear ambitions of North Korea and Iran, strengthening International

Atomic Energy Agency safeguards and enforcing compliance with them, impeding illicit nuclear trade, and promoting the peaceful uses of nuclear energy without increasing proliferation risks. Second, we are accelerating efforts to implement President Obama's initiative to secure all vulnerable nuclear materials worldwide in four years.

And third, we are pursuing arms control efforts – including the New Strategic Arms Reduction Treaty (New START), ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty, and negotiation of a verifiable Fissile Material Cutoff Treaty – as a means of strengthening our ability to mobilize broad international support for the measures needed to reinforce the non-proliferation regime and secure nuclear materials worldwide.

Among key Administration initiatives are:

- Pursuing aggressively the President's Prague initiative to secure all vulnerable nuclear materials worldwide, including accelerating the Global Threat Reduction Initiative and the International Nuclear Material Protection and Cooperation Program. This includes increasing funding in fiscal year (FY) 2011 for Department of Energy nuclear non-proliferation programs to $2.7 billion, more than 25 percent.
- Enhancing national and international capabilities to disrupt illicit proliferation networks and interdict smuggled nuclear materials, and continuing to expand our nuclear forensics efforts to improve the ability to identify the source of nuclear material used or intended for use in a terrorist nuclear explosive device.
- Initiating a comprehensive national research and development program to support continued progress toward a world free of nuclear weapons, including expanded work on verification technologies and the development of transparency measures.
- Renewing the U.S. commitment to hold fully accountable any state, terrorist group, or other non-state actor that supports or enables terrorist efforts to obtain or use weapons of mass destruction, whether by facilitating, financing, or providing expertise or safe haven for such efforts.

Reducing the Role of U.S. Nuclear Weapons

The role of nuclear weapons in U.S. national security and U.S. military strategy has been reduced significantly in recent decades, but further steps can and should be taken at this time.

The fundamental role of U.S. nuclear weapons, which will continue as long as nuclear weapons exist, is to deter nuclear attack on the United States, our allies, and partners.

During the Cold War, the United States reserved the right to use nuclear weapons in response to a massive conventional attack by the Soviet Union and its Warsaw Pact allies. Moreover, after the

United States gave up its own chemical and biological weapons (CBW) pursuant to international treaties (while some states continue to possess or pursue them), it reserved the right to employ nuclear weapons to deter CBW attack on the United States and its allies and partners.

Since the end of the Cold War, the strategic situation has changed in fundamental ways. With the advent of U.S. conventional military preeminence and continued improvements in U.S. missile defenses and capabilities to counter and mitigate the effects of CBW, the role of U.S. nuclear weapons in deterring non-nuclear attacks – conventional, biological, or chemical – has declined significantly. The United States will continue to reduce the role of nuclear weapons in deterring non-nuclear attacks.

To that end, the United States is now prepared to strengthen its long-standing "negative security assurance" by declaring that the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.

This revised assurance is intended to underscore the security benefits of adhering to and fully complying with the NPT and persuade non-nuclear weapon states party to the Treaty to work with the United States and other interested parties to adopt effective measures to strengthen the non-proliferation regime.

In making this strengthened assurance, the United States affirms that any state eligible for the assurance that uses chemical or biological weapons against the United States or its allies and partners would face the prospect of a devastating conventional military response – and that any individuals responsible for the attack, whether national leaders or military commanders, would be held fully accountable. Given the catastrophic potential of biological weapons and the rapid pace of bio-technology development, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.

In the case of countries not covered by this assurance – states that possess nuclear weapons and states not in compliance with their nuclear non-proliferation obligations – there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW attack against the United States or its allies and partners. The United States is therefore not prepared at the present time to adopt a universal policy that deterring nuclear attack is the sole purpose of nuclear weapons, but will work to establish conditions under which such a policy could be safely adopted.

Yet that does not mean that our willingness to use nuclear weapons against countries not covered by the new assurance has in any way increased. Indeed, the United States wishes to stress that it would only consider the use of nuclear weapons in extreme circumstances to defend the vital

interests of the United States or its allies and partners. It is in the U.S. interest and that of all other nations that the nearly 65-year record of nuclear non-use be extended forever.

Accordingly, among the key conclusions of the NPR:

- The United States will continue to strengthen conventional capabilities and reduce the role of nuclear weapons in deterring non-nuclear attacks, with the objective of making deterrence of nuclear attack on the United States or our allies and partners the sole purpose of U.S. nuclear weapons.
- The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.
- The United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.

Maintaining Strategic Deterrence and Stability at Reduced Nuclear Force Levels

Since the end of the Cold War, the United States and Russia have reduced operationally deployed strategic nuclear weapons by about 75 percent, but both still retain many more nuclear weapons than they need for deterrence. The Administration is committed to working with Russia to preserve stability at significantly reduced force levels.

New START. The next step in this process is to replace the now-expired 1991 START I Treaty with another verifiable agreement, New START. An early task for the NPR was to develop U.S. positions for the New START negotiations and to consider how U.S. forces could be structured in light of the reductions required by the new agreement. The NPR reached the following conclusions:

- Stable deterrence can be maintained while reducing U.S. strategic delivery vehicles – intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and nuclear-capable heavy bombers – by approximately 50 percent from the START I level, and reducing accountable strategic warheads by approximately 30 percent from the Moscow Treaty level.
- Building on NPR analysis, the United States agreed with Russia to New START limits of 1,550 accountable strategic warheads, 700 deployed strategic delivery vehicles, and a combined limit of 800 deployed and non-deployed strategic launchers.
- The U.S. nuclear Triad of ICBMs, SLBMs, and nuclear-capable heavy bombers will be maintained under New START.
- All U.S. ICBMs will be "de-MIRVed" to a single warhead each to increase stability.

- Contributions by non-nuclear systems to U.S. regional deterrence and reassurance goals will be preserved by avoiding limitations on missile defenses and preserving options for using heavy bombers and long-range missile systems in conventional roles.

Maximizing Presidential decision time. The NPR concluded that the current alert posture of U.S. strategic forces – with heavy bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs at sea at any given time – should be maintained for the present. It also concluded that efforts should continue to diminish further the possibility of nuclear launches resulting from accidents, unauthorized actions, or misperceptions and to maximize the time available to the President to consider whether to authorize the use of nuclear weapons. Key steps include:

- Continuing the practice of "open-ocean targeting" of all ICBMs and SLBMs so that, in the highly unlikely event of an unauthorized or accidental launch, the missile would land in the open ocean, and asking Russia to re-confirm its commitment to this practice.
- Further strengthening the U.S. command and control system to maximize Presidential decision time in a nuclear crisis.
- Exploring new modes of ICBM basing that enhance survivability and further reduce any incentives for prompt launch.

Reinforcing strategic stability. Given that Russia and China are currently modernizing their nuclear capabilities – and that both are claiming U.S. missile defense and conventionally-armed missile programs are destabilizing – maintaining strategic stability with the two countries will be an important challenge in the years ahead.

- The United States will pursue high-level, bilateral dialogues on strategic stability with both Russia and China which are aimed at fostering more stable, resilient, and transparent strategic relationships.

A strategic dialogue with Russia will allow the United States to explain that our missile defenses and any future U.S. conventionally-armed long-range ballistic missile systems are designed to address newly emerging regional threats, and are not intended to affect the strategic balance with Russia. For its part, Russia could explain its modernization programs, clarify its current military doctrine (especially the extent to which it places importance on nuclear weapons), and discuss steps it could take to allay concerns in the West about its non-strategic nuclear arsenal, such as further consolidating its non-strategic systems in a small number of secure facilities deep within Russia.

With China, the purpose of a dialogue on strategic stability is to provide a venue and mechanism for each side to communicate its views about the other's strategies, policies, and programs on

nuclear weapons and other strategic capabilities. The goal of such a dialogue is to enhance confidence, improve transparency, and reduce mistrust. As stated in the 2010 Ballistic Missile Defense Review Report, "maintaining strategic stability in the U.S.-China relationship is as important to this Administration as maintaining strategic stability with other major powers."

Future nuclear reductions. The President has directed a review of post-New START arms control objectives, to consider future reductions in nuclear weapons. Several factors will influence the magnitude and pace of future reductions in U.S. nuclear forces below New START levels.

First, any future nuclear reductions must continue to strengthen deterrence of potential regional adversaries, strategic stability vis-à-vis Russia and China, and assurance of our allies and partners. This will require an updated assessment of deterrence requirements; further improvements in U.S., allied, and partner non-nuclear capabilities; focused reductions in strategic and non-strategic weapons; and close consultations with allies and partners. The United States will continue to ensure 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.

Second, implementation of the Stockpile Stewardship Program and the nuclear infrastructure investments recommended in the NPR will allow the United States 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. These investments are essential to facilitating reductions while sustaining deterrence under New START and beyond.

Third, Russia's nuclear force will remain a significant factor in determining how much and how fast we are prepared to reduce U.S. forces. Because of our improved relations, the need for strict numerical parity between the two countries 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.

Key NPR recommendations include:

- Conduct follow-on analysis to set goals for future nuclear reductions below the levels expected in New START, while strengthening deterrence of potential regional adversaries, strategic stability vis-à-vis Russia and China, and assurance of our allies and partners.
- Address non-strategic nuclear weapons, together with the non-deployed nuclear weapons of both sides, in any post-New START negotiations with Russia.

- Implement U.S. nuclear force reductions in ways that maintain the reliability and effectiveness of security assurances to our allies and partners. The United States will consult with allies and partners in developing its approach to post-New START negotiations.

Strengthening Regional Deterrence and Reassuring U.S. Allies and Partners

The United States is fully committed to strengthening bilateral and regional security ties and working with allies and partners to adapt these relationships to 21st century challenges. Such security relationships are critical in deterring potential threats, and can also serve our non-proliferation goals – by demonstrating to neighboring states that their pursuit of nuclear weapons will only undermine their goal of achieving military or political advantages, and by reassuring non-nuclear U.S. allies and partners that their security interests can be protected without their own nuclear deterrent capabilities.

U.S. nuclear weapons have played an essential role in extending deterrence to U.S. allies and partners against nuclear attacks or nuclear-backed coercion by states in their region that possess or are seeking nuclear weapons. A credible U.S. "nuclear umbrella" has been provided by a combination of means – the strategic forces of the U.S. Triad, non-strategic nuclear weapons deployed forward in key regions, and U.S.-based nuclear weapons that could be deployed forward quickly to meet regional contingencies. The mix of deterrence means has varied over time and from region to region.

Defense Secretary Robert M. Gates conducts a press conference following the NATO Defense Ministerial in Istanbul, Turkey, Feb. 5, 2010. DoD photo by Cherie Cullen.

In Europe, forward-deployed U.S. nuclear weapons have been reduced dramatically since the end of the Cold War, but a small number of U.S. nuclear weapons remain. Although the risk of nuclear attack against NATO members is at an historic low, 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. The role of nuclear weapons in defending Alliance members will be discussed this year in

connection with NATO's revision of its Strategic Concept. Any changes in NATO's nuclear posture should only be taken after a thorough review within – and decision by – the Alliance.

In Asia and the Middle East – where there are no multilateral alliance structures analogous to NATO – the United States has maintained extended deterrence through bilateral alliances and security relationships and through its forward military presence and security guarantees. When the Cold War ended, the United States withdrew its forward deployed nuclear weapons from the Pacific region, including removing nuclear weapons from naval surface vessels and general purpose submarines. Since then, it has relied on its central strategic forces and the capacity to re-deploy nuclear systems in East Asia in times of crisis.

Although nuclear weapons have proved to be a key component of U.S. assurances to allies and partners, the United States has relied increasingly on non-nuclear elements to strengthen regional security architectures, including a forward U.S. conventional presence and effective theater ballistic missile defenses. As the role of nuclear weapons is reduced in U.S. national security strategy, these non-nuclear elements will take on a greater share of the deterrence burden. Moreover, an indispensable ingredient of effective regional deterrence is not only non-nuclear but also non-military – strong, trusting political relationships between the United States and its allies and partners.

Non-strategic nuclear weapons. The United States has reduced non-strategic (or "tactical") nuclear weapons dramatically since the end of the Cold War. Today, it keeps only a limited number of forward deployed nuclear weapons in Europe, plus a small number of nuclear weapons stored in the United States for possible overseas deployment in support of extended deterrence to allies and partners worldwide. Russia maintains a much larger force of non-strategic nuclear weapons, a significant number of which are deployed near the territories of several North Atlantic Treaty Organization (NATO) countries.

The NPR concluded that the United States will:

- Retain the capability to forward-deploy U.S. nuclear weapons on tactical fighter-bombers and heavy bombers, and proceed with full scope life extension for the B-61 bomb including enhancing safety, security, and use control.
- Retire the nuclear-equipped sea-launched cruise missile (TLAM-N).
- Continue to maintain and develop long-range strike capabilities that supplement U.S. forward military presence and strengthen regional deterrence.
- Continue and, where appropriate, expand consultations with allies and partners to address how to ensure the credibility and effectiveness of the U.S. extended deterrent. No changes

in U.S. extended deterrence capabilities will be made without close consultations with our allies and partners.

Sustaining a Safe, Secure, and Effective Nuclear Arsenal

The United States is committed to ensuring that its nuclear weapons remain safe, secure, and effective. Since the end of U.S. nuclear testing in 1992, our nuclear warheads have been maintained and certified as safe and reliable through a Stockpile Stewardship Program that has extended the lives of warheads by refurbishing them to nearly original specifications. Looking ahead three decades, the NPR considered how best to extend the lives of existing nuclear warheads consistent with the congressionally mandated Stockpile Management Program and U.S. non-proliferation goals, and reached the following conclusions:

- The United States will not conduct nuclear testing and will pursue ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty.
- The United States will not develop new nuclear warheads. Life Extension Programs (LEPs) will use only nuclear components based on previously tested designs, and will not support new military missions or provide for new military capabilities.
- The United States will study options for ensuring the safety, security, and reliability of nuclear warheads on a case-by-case basis, consistent with the congressionally mandated Stockpile Management Program. The full range of LEP approaches will be considered: refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components.
- In any decision to proceed to engineering development for warhead LEPs, the United States will give strong preference to options for refurbishment or reuse. Replacement of nuclear components would be undertaken only if critical Stockpile Management Program goals could not otherwise be met, and if specifically authorized by the President and approved by Congress.

Consistent with these conclusions, the NPR recommended:

- Funding fully the ongoing LEP for the W-76 submarine-based warhead and the LEP study and follow-on activities for the B-61 bomb; and
- Initiating a study of LEP options for the W-78 ICBM warhead, including the possibility of using the resulting warhead also on SLBMs to reduce the number of warhead types.

In order to remain safe, secure, and effective, the U.S. nuclear stockpile must be supported by a modern physical infrastructure – comprised of the national security laboratories and a complex of supporting facilities – and a highly capable workforce with the specialized skills needed to sustain

the nuclear deterrent. As the United States reduces the numbers of nuclear weapons, the reliability of the remaining weapons in the stockpile – and the quality of the facilities needed to sustain it – become more important.

Human capital is also a concern. The national security laboratories have found it increasingly difficult to attract and retain the most promising scientists and engineers of the next generation. The Administration's commitment to a clear, long-term plan for managing the stockpile, as well as to preventing proliferation and nuclear terrorism will enhance recruitment and retention of the scientists and engineers of tomorrow, by providing the opportunity to engage in challenging and meaningful research and development activities.

The NPR concluded:

- The science, technology and engineering base, vital for stockpile stewardship as well as providing insights for non-proliferation, must be strengthened.
- Increased investments in the nuclear weapons complex of facilities and personnel are required to ensure the long-term safety, security, and effectiveness of our nuclear arsenal. New facilities will be sized to support the requirements of the stockpile stewardship and management plan being developed by the National Nuclear Security Administration.
- Increased funding is needed for the Chemistry and Metallurgy Research Replacement Project at Los Alamos National Laboratory to replace the existing 50-year old facility, and to develop a new Uranium Processing Facility at the Y-12 Plant in Oak Ridge, Tennessee.

Looking Ahead: Toward a World without Nuclear Weapons

Pursuing the recommendations of the 2010 Nuclear Posture Review will strengthen the security of the United States and its allies and partners and bring us significant steps closer to the President's vision of a world without nuclear weapons.

The conditions that would ultimately permit the United States and others to give up their nuclear weapons without risking greater international instability and insecurity are very demanding. Among those conditions are success in halting the proliferation of nuclear weapons, much greater transparency into the programs and capabilities of key countries of concern, verification methods and technologies capable of detecting violations of disarmament obligations, enforcement measures strong and credible enough to deter such violations, and ultimately the resolution of regional disputes that can motivate rival states to acquire and maintain nuclear weapons. Clearly, such conditions do not exist today.

But we can – and must – work actively to create those conditions. We can take the practical steps identified in the 2010 NPR that will not only move us toward the ultimate goal of eliminating all nuclear weapons worldwide but will, in their own right, reinvigorate the global nuclear non-

proliferation regime, erect higher barriers to the acquisition of nuclear weapons and nuclear materials by terrorist groups, and strengthen U.S. and international security.

INTRODUCTION

A year ago in Prague, President Obama offered a new direction for coping with 21st century nuclear dangers, declaring that to overcome grave and growing threats of nuclear terrorism and nuclear proliferation, the United States will "seek the peace and security of a world without nuclear weapons." He recognized that such an ambitious goal could not be reached quickly – perhaps, he said, not in his lifetime. But the President expressed his determination to take concrete steps toward that goal, including by reducing U.S. nuclear weapons and their role in U.S. national security strategy. At the same time, he pledged that as long as nuclear weapons exist, the United States will maintain a safe, secure, and effective arsenal, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments.

This Nuclear Posture Review (NPR) report outlines the Administration's approach to promoting the President's agenda for reducing nuclear dangers and pursuing the goal of a world without nuclear weapons – while simultaneously advancing broader U.S. security interests, consistent with the President's national security priorities and the supporting defense strategy objectives identified in the 2010 Quadrennial Defense Review. The 2010 NPR represents the third comprehensive assessment of U.S. nuclear policy and strategy conducted by the United States since the end of the Cold War. Previous reviews were completed in 1994 and 2001.

As mandated by Congress, the 2010 NPR was conducted by the Secretary of Defense in consultation with the Secretaries of State and Energy. Within the Department of Defense, the review was led jointly by the Office of the Secretary of Defense and the Joint Staff. The Military Departments and Combatant Commands also contributed to the analytical work; there was especially close collaboration with U.S. Strategic Command. Because of the breadth of issues addressed, the review involved a number of additional departments and agencies, including the Departments of Homeland Security and Treasury, and the Office of the Director of National Intelligence. The review also benefited from extensive consultations with Congress, U.S. allies, and other interested stakeholders. The National Security Council and its supporting interagency bodies met throughout the review to consider key issues of strategy and policy.

In Presidential guidance initiating the NPR, the President called for a thorough review of U.S. nuclear weapons policies and force posture. He directed that the review bring forward options for discussion aimed at multiple objectives: reducing the role and numbers of U.S. nuclear weapons; strengthening deterrence of adversaries; reassuring allies and partners, who depend on the U.S. commitment to extended deterrence; enhancing strategic stability; and moving demonstrably toward the ultimate goal of the elimination of nuclear weapons.

A key premise of the 2010 NPR was that any successful strategy for achieving these objectives must be *balanced*, with movement in one area enabling and reinforcing progress in other areas. For example, increased infrastructure investment and a sound Stockpile Stewardship Program will facilitate reductions in both deployed and non-deployed nuclear weapons. The elements of such a strategy must also be *integrated*, both nationally – across federal agencies and between the executive and legislative branches – and internationally among a wide range of partner governments. And an effective strategy must be *sustained* over time, with support from a long succession of U.S. Administrations and Congresses. A balanced, integrated, and sustained strategy will require a strong bipartisan consensus. Forging such a consensus is a central purpose of this NPR.

After describing fundamental changes in the international security environment and U.S. adjustments to date, the NPR report focuses on five key objectives of our nuclear weapons policies and posture:

1. Preventing nuclear proliferation and nuclear terrorism;
2. Reducing the role of U.S. nuclear weapons in U.S. national security strategy;
3. Maintaining strategic deterrence and stability at lower nuclear force levels;
4. Strengthening regional deterrence and reassuring U.S. allies and partners; and
5. Sustaining a safe, secure, and effective nuclear arsenal.

A final section of the NPR considers the path ahead for U.S. nuclear strategy and posture over the coming years and decades.

THE CHANGED – AND CHANGING – NUCLEAR SECURITY ENVIRONMENT

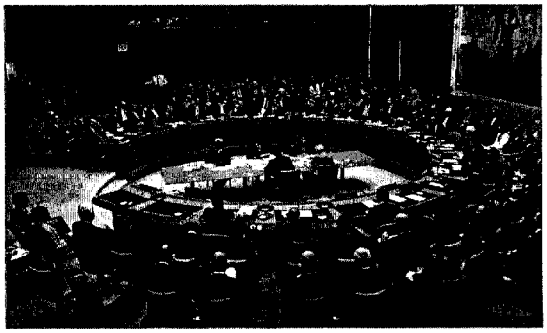
The international security environment has changed dramatically since the end of the Cold War. The threat of global nuclear war has become remote, but the risk of nuclear attack has increased.

The Threat of Nuclear Proliferation and Nuclear Terrorism

The most immediate and extreme threat today is nuclear terrorism. Al Qaeda and their extremist allies are seeking nuclear weapons. We must assume they would use such weapons if they managed to obtain them. Although terrorist groups are currently believed to lack the resources to produce weapons-usable nuclear material themselves, the vulnerability to theft or seizure of vast stocks of such nuclear materials around the world, and the availability of sensitive equipment and technologies in the nuclear black market, create a serious risk that terrorists may acquire what they need to build a nuclear weapon.

To date, the international community has made progress toward achieving a global "lock down" of nuclear weapons, materials, and associated technology, but much more work needs to be done. In addition, the United States and the international community have improving but currently insufficient capabilities to detect, interdict, and defeat efforts to covertly deliver nuclear materials or weapons—and if an attack occurs, to respond to minimize casualties and economic impact as well as to attribute the source of the attack and take strong action.

Today's other pressing threat is nuclear proliferation. Additional countries – especially those at odds with the United States, its allies and partners, and the broader international community – may acquire nuclear weapons. In pursuit of their nuclear ambitions, North Korea and Iran have violated non-proliferation obligations, defied directives of the United Nations Security Council, pursued missile delivery capabilities, and resisted international efforts to resolve through diplomatic means the crises



President Barack Obama chairs a United Nations Security Council meeting at UN Headquarters in New York, N.Y., Sept. 24, 2009. Official White House photo by Pete Souza.

they have created. Their illicit supply of arms and sensitive material and technologies has heightened global proliferation risks and regional tensions. Their provocative behavior has increased instability in their regions. Continued non-compliance with non-proliferation norms by these and other countries would seriously weaken the Nuclear Non-Proliferation Treaty (NPT), with adverse security implications for the United States and the international community at large.

The potential for regional aggression by these states raises challenges not only of deterrence, but also of reassuring U.S. allies and partners. In the Cold War, our allies sought assurance that they would remain safe in the face of Soviet threats because the United States was demonstrably committed to their security. Today's environment is quite different. Some U.S. allies are increasingly anxious about changes in the security environment, including nuclear and missile proliferation, and desire reassurance that the United States will remain committed to their security. A failure of reassurance could lead to a decision by one or more non-nuclear states to seek nuclear deterrents of their own, an outcome which could contribute to an unraveling of the NPT regime and to a greater likelihood of nuclear weapon use.

Despite these challenges, the NPT remains a cornerstone of the non-proliferation regime and has served the international community well over the past four decades. Its fundamental bargain is still sound: all parties have a right to peaceful nuclear power; states without nuclear weapons forsake them; and those with nuclear weapons work towards disarmament. However, with clear evidence of non-compliance with the NPT, the non-proliferation regime urgently requires strengthening.

Further, the International Atomic Energy Agency (IAEA), the international body charged with applying safeguards to ensure that nuclear facilities and materials are used only for peaceful purposes, currently lacks sufficient resources and authorities necessary to carry out its mission effectively.

Strategic Stability with Russia and China

While facing the urgent threats of nuclear terrorism and nuclear proliferation, the United States must continue to address the more familiar challenge of ensuring strategic stability with existing nuclear powers – most notably Russia and China. Russia remains America's only peer in the area of nuclear weapons capabilities. But the nature of the U.S.-Russia strategic and political relationship has changed fundamentally since the days of the Cold War. Policy differences continue to arise between the two countries, and Russia continues to modernize its still-formidable nuclear forces. But Russia and the United States have increased their cooperation in areas of shared interest, including preventing nuclear proliferation and nuclear terrorism. And the prospects for military confrontation have declined dramatically in recent decades.

While the United States and Russia have reduced deployed nuclear weapons by about 75 percent since the end of the Cold War, each still retains more nuclear weapons than necessary for stable deterrence. As the United States and Russia reduce their deployed strategic nuclear weapons and delivery vehicles under the New Strategic Arms Reduction Treaty (New START) and a follow-on agreement to it, maintaining a stable bilateral balance and avoiding dangerous nuclear competition will be key objectives.

The United States and China are increasingly interdependent and their shared responsibilities for addressing global security threats, such as WMD proliferation and terrorism, are growing. The United States welcomes a strong, prosperous, and successful China that plays a greater global role in supporting international rules, norms, and institutions.

At the same time, the United States and China's Asian neighbors remain concerned about the pace and scope of China's current military modernization efforts, including its quantitative and qualitative modernization of its nuclear capabilities. China's nuclear arsenal remains much smaller than the arsenals of Russia and the United States. But the lack of transparency surrounding its programs – their pace and scope as well as the strategy and doctrine guiding them – raises questions about China's future strategic intentions.

Adapting to a Changed Security Environment

These changes in the nuclear threat environment – especially the heightened concern about nuclear terrorism and nuclear proliferation and the less dangerous strategic interaction between the United States and Russia – have not emerged overnight. They have developed over the last twenty years, and Administrations of both parties have responded with modifications of U.S. nuclear weapons policies and force posture. But those modifications have not gone far or fast enough. As the President has said, we have to "put an end to Cold War thinking."

- The United States has begun to shift our focus to the dangers of nuclear proliferation and nuclear terrorism, but we need to intensify our efforts to build broad international support for the rigorous measures needed to prevent these dangers.
- The United States has sought to prevent the emergence of new regional nuclear-armed states, but we need to do more to enhance regional security architectures to reassure our allies and partners that our commitments to their defense will remain strong and reliable.
- The United States and Russia have deeply reduced their nuclear forces from Cold War levels, but both still retain many more nuclear weapons than needed.
- The United States has reduced our reliance on nuclear weapons as Cold War nuclear rivalries have eased and as our conventional military forces and missile defense capabilities

have strengthened, but we have sent mixed signals about the importance we place on nuclear weapons in our national security strategy.

- The United States has maintained a safe, secure, and effective nuclear stockpile without nuclear testing since 1992, but significant investments are needed in both physical and human capital to ensure that the stockpile can be maintained without ever needing to test again.

The growing dangers of nuclear proliferation and nuclear terrorism have altered the hierarchy of our nuclear concerns and strategic objectives. In coming years, we must give top priority to discouraging additional countries from acquiring nuclear weapons capabilities and stopping terrorist groups from acquiring the materials to build nuclear bombs. At the same time, we must continue to maintain stable strategic relationships with Russia and China and counter threats posed by any emerging nuclear-armed states, thereby protecting the United States and our allies and partners against nuclear threats or intimidation, and reducing any incentives our non-nuclear allies and partners might have to seek their own nuclear deterrents.

Implications for U.S. Nuclear Weapons Policies and Force Structure

The massive nuclear arsenal we inherited from the Cold War era of bipolar military confrontation is poorly suited to address the challenges posed by suicidal terrorists and unfriendly regimes seeking nuclear weapons. Therefore, it is essential that we better align our nuclear policies and posture to our most urgent priorities – preventing nuclear terrorism and nuclear proliferation.

This does not mean that our nuclear deterrent has become irrelevant. Indeed, as long as nuclear weapons exist, the United States will maintain safe, secure, and effective nuclear forces, including deployed and stockpiled nuclear weapons, highly capable nuclear delivery systems and command and control capabilities, and the physical infrastructure and the expert personnel needed to sustain them. These nuclear forces will continue to play an essential role in deterring potential adversaries, reassuring allies and partners around the world, and promoting stability globally and in key regions.

But fundamental changes in the international security environment in recent years – including the growth of unrivaled U.S. conventional military capabilities, major improvements in missile defenses, and the easing of Cold War rivalries – enable us to fulfill those objectives at significantly lower nuclear force levels and with reduced reliance on nuclear weapons. Therefore, without jeopardizing our traditional deterrence and reassurance goals, we are now able to shape our nuclear weapons policies and force structure in ways that will better enable us to meet today's most pressing security challenges.

- By reducing the role and numbers of U.S. nuclear weapons – and thereby demonstrating that we are meeting our NPT Article VI obligation to make progress toward nuclear disarmament – we can put ourselves in a much stronger position to persuade our NPT partners to join with us in adopting the measures needed to reinvigorate the non-proliferation regime and secure nuclear materials worldwide against theft or seizure by terrorist groups.

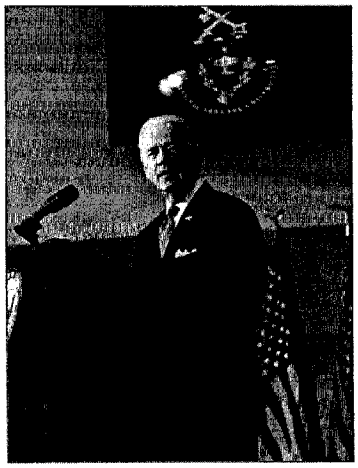
- By maintaining a credible nuclear deterrent and reinforcing regional security architectures with missile defenses and other conventional military capabilities, we can reassure our non-nuclear allies and partners worldwide of our security commitments to them and confirm that they do not need nuclear weapons capabilities of their own.

- By pursuing a sound Stockpile Management Program for extending the life of U.S. nuclear weapons, we can ensure a safe, secure, and effective deterrent without the development of new nuclear warheads or further nuclear testing.

- By modernizing our aging nuclear weapons-supporting facilities and investing in human capital, we can substantially reduce the number of stockpiled nuclear weapons we retain as a hedge against technical or geopolitical surprise, accelerate the dismantlement of nuclear weapons no longer required for our deterrent, and improve our understanding of foreign nuclear weapons activities.

- By promoting strategic stability with Russia and China and improving transparency and mutual confidence, we can help create the conditions for moving toward a world without nuclear weapons and build a stronger basis for addressing the threats of nuclear proliferation and nuclear terrorism.

- By working to reduce the salience of nuclear weapons in international affairs and moving step-by-step toward



Vice President Joseph R. Biden delivers a speech on nuclear security and implementing the President's Prague agenda before Secretary of Defense Robert Gates, Secretary of Energy Steven Chu, Vice Chairman of the Joint Chiefs of Staff General James Cartwright, and several hundred guests, at the National Defense University on Feb. 18, 2010. National Defense University photo.

eliminating them, we can reverse the growing expectation that we are destined to live in a world with many nuclear-armed states, and decrease incentives for additional countries to hedge against an uncertain and dangerous future by pursuing nuclear options of their own. Creating these conditions will reduce the likelihood of nuclear weapon use.

In sum, the security environment has changed in fundamental ways since the end of the Cold War. The landscape of threats and challenges has evolved. But a changing landscape has also brought with it some valuable new opportunities. Accordingly, U.S. policy priorities must shift. The U.S. policy agenda must reflect a clear and current understanding of how U.S. nuclear strategy and posture shape these international dynamics.

PREVENTING NUCLEAR PROLIFERATION AND NUCLEAR TERRORISM

As part of our effort to move toward a world free of nuclear weapons, the United States will lead expanded international efforts to rebuild and strengthen the global nuclear non-proliferation regime and to accelerate efforts to prevent nuclear terrorism. Concerns have grown in recent years that unless today's dangerous trends are arrested and reversed, before long we will be living in a world with a steadily growing number of nuclear-armed states and an increasing likelihood of terrorists getting their hands on nuclear weapons. Therefore, for the first time, the 2010 NPR places this priority atop the U.S. nuclear agenda.

The United States is committed to renewing and strengthening the Nuclear Non-Proliferation Treaty (NPT) and the global nuclear non-proliferation regime it anchors to cope with the challenges of non-compliance and of the growth of nuclear power. We support expanding access to the benefits of peaceful nuclear technology, but this must be done in a way that does not promote proliferation of nuclear weapons capabilities. To strengthen the regime, the United States seeks to champion and reaffirm through its own actions the grand bargain that underpins the treaty: states without nuclear weapons will not acquire them, states with nuclear weapons will move toward disarmament, and all Parties can have access to peaceful nuclear energy under effective verification.

As part of this effort, the United States seeks to bolster the nuclear non-proliferation regime by:

- Reversing the nuclear ambitions of North Korea and Iran. We have demonstrated that we are prepared to engage multilaterally and bilaterally with these states to arrive at negotiated solutions that provide for their political and economic integration with the international community, while verifiably confirming they are not pursuing nuclear weapons capabilities. However, their continued defiance of international norms and agreements will lead only to their further isolation and increasing international pressure.

- Strengthening International Atomic Energy Agency (IAEA) safeguards. NPT Members, particularly non-nuclear weapons states, rely for security on assurances that countries will not divert nuclear material to illicit nuclear weapons programs. IAEA safeguards are essential in maintaining that assurance. To deter and detect safeguards violations, the IAEA must be given additional financial resources and verification authorities, and all countries should adhere to the IAEA Additional Protocol. The United States is committed to expanding financial support for the regular IAEA budget and will continue to push for stronger institutional support from other states, while we continue to increase our own extra-budgetary contributions. The U.S. Next Generation Safeguards Initiative will assist

the IAEA to confront new challenges far into the future by helping develop the tools, authorities, capabilities, technologies, expertise, and resources needed to meet current and future safeguard challenges.

- Creating consequences for non-compliance. It is not enough to detect non-compliance; violators must know that they will face consequences when they are caught. Moreover, states that violate their obligations must not be able to escape the consequences of their non-compliance by withdrawing from the NPT.

- Impeding sensitive nuclear trade. National and multilateral export and border controls must be strengthened, financial and other tools must be used to disrupt illicit proliferation networks, and tighter restrictions must be placed on the transfer of dual-use enrichment and reprocessing technologies. The United States has increased its funding to help countries improve strategic trade controls and improve targeting and inspection at border crossings. We also support development of a United Nations Security Council Resolution 1540 "trust fund" to assist countries in meeting their obligations under the resolution, including developing and enforcing national export controls to prevent non-state actors from obtaining weapons of mass destruction (WMD)-related materials and technology. We are implementing President Obama's pledge to make the Proliferation Security Initiative into a durable international institution, under which over 90 countries coordinate, share intelligence, and build capacity to interdict WMD-related transfers. And the United States is working to detect and disrupt the financing of nuclear proliferation and terrorism by identifying and prosecuting its networks and establishing international standards and best practices.

- Promoting the peaceful uses of nuclear energy without increasing proliferation risks. President Obama has called for the development of a new framework for international nuclear energy cooperation, which the United States is pursuing with the international community through the Global Nuclear Energy Partnership, which includes 25 partner and 31 observer nations. To reduce incentives for countries to pursue indigenous fuel cycle facilities, this new framework should include international fuel banks, such as the Russian Angarsk fuel bank approved by the IAEA in February 2010, multilateral fuel-supply assurances, agreements by suppliers to take back spent fuel, and spent fuel repositories. Cradle-to-grave nuclear fuel management could be one important element of this new framework. The United States will also continue to assist other countries in benefitting from the other peaceful applications of nuclear materials, including for medical and agricultural uses and pure research.

The United States is committed to improving nuclear security worldwide in order to prevent nuclear terrorism. This cannot be accomplished by the United States alone. All states have a

fundamental responsibility to ensure the security and control of nuclear materials and weapons in their possession. Further, this ambitious agenda requires the active engagement of a broad coalition of nations acting in concert. The United States has given high priority to strengthening and accelerating international efforts to prevent nuclear terrorism by:

- Pursuing aggressively the President's Prague initiative, endorsed in United Nations Security Council Resolution 1887, to secure all vulnerable nuclear materials worldwide. The United States will be doing so by expanding our cooperation with other countries and strengthening nuclear security standards, practices, and international safeguards.

- Hosting the April 2010 Nuclear Security Summit, where leaders of over 40 countries will commit to fight nuclear smuggling and terrorism and put in place effective nuclear security measures.

- Increasing funding in fiscal year (FY) 2011 for the National Nuclear Security Administration's nuclear non-proliferation programs to $2.7 billion, an increase of more than 25 percent.

In May 2009, the National Nuclear Security Administration (NNSA) announced the removal of 73.7 kilograms (162.5 pounds) of Russian-origin highly enriched uranium (HEU) "spent" nuclear fuel from Kazakhstan. The material was removed and returned to Russia for storage at a secure nuclear facility in a series of four shipments between December 2008 and May 2009. NNSA photo.

- Accelerating the Global Threat Reduction Initiative to remove and secure high-priority vulnerable nuclear material around the world, convert additional research reactors to operate on fuel that cannot be used in nuclear weapons, and complete the repatriation of U.S.- and Russian-origin highly enriched uranium from research reactors worldwide.

- Accelerating the International Nuclear Material Protection and Cooperation Program to install nuclear security upgrades at Russian weapons complex sites and to expand cooperation to new priority countries beyond Russia and the former Soviet Union.

- Securing and eliminating weapons of mass destruction and their means of delivery through cooperative threat reduction programs at the Departments of Defense, State, and Energy, including the flagship Nunn-Lugar program. And assisting other countries to strengthen their national capacities for nuclear materials protection, control, and

accounting through these programs, United Nations Security Council Resolution 1540, and multilateral cooperative threat reduction programs.

- Enhancing national and international capabilities to detect and interdict smuggled nuclear materials. We are expanding the Container Security Initiative to screen U.S.-bound cargo and the Second Line of Defense and Megaports programs to install radiation detectors at key borders, airports, and seaports. We also are making the 77-country Global Initiative to Combat Nuclear Terrorism a durable international institution. The Initiative coordinates expertise, shares information, and integrates capabilities to deter, detect, interdict, mitigate, and respond to acts of nuclear terrorism.

- Continue to strengthen our nuclear forensics efforts to improve the ability to identify the source of nuclear material used or intended for use in a terrorist nuclear explosive device.

- Renewing the U.S. commitment to hold fully accountable any state, terrorist group, or other non-state actor that supports or enables terrorist efforts to obtain or use weapons of mass destruction, whether by facilitating, financing, or providing expertise or safe haven for such efforts.

U.S. arms control and disarmament efforts, as well as other means of reducing the role of nuclear weapons and moving toward a world without them, can make a major contribution to our goal of preventing nuclear proliferation and nuclear terrorism. By demonstrating that we take seriously our NPT obligation to pursue nuclear disarmament, we strengthen our ability to mobilize broad international support for the measures needed to reinforce the non-proliferation regime and secure nuclear materials worldwide. We are doing so by:

- Concluding a verifiable New Strategic Arms Reduction Treaty (New START) that limits U.S. and Russian nuclear forces to levels well below those provided for in the 1991 START Treaty and the 2002 Moscow Treaty. U.S. ratification and subsequent implementation of the new Treaty will be a concrete step on the path to nuclear disarmament. The verification and transparency measures included in the Treaty will help ensure stability and predictability in the U.S.-Russia strategic relationship. Implementation of the treaty also will set the stage for deeper, verifiable nuclear reductions. As the United States and Russia reduce their deployed weapons through New START, the United States will pursue negotiations for deeper reductions and greater transparency in partnership with Russia. Over time, we will also engage with other nuclear weapon states, including China, on ways to expand the nuclear reduction process in the future. This process should include efforts to improve transparency of states' nuclear policies, strategies, and programs.

- Pursuing ratification and early entry into force of the Comprehensive Nuclear Test Ban Treaty (CTBT). Ratification of the CTBT is central to leading other nuclear weapons states toward a world of diminished reliance on nuclear weapons, reduced nuclear competition, and eventual nuclear disarmament. U.S. ratification could also encourage ratification by other states, including China, and provide incentives for the remaining states to work toward entry into force of the treaty. Further, U.S. ratification of the CTBT would enable us to encourage non-NPT Parties to follow the lead of the NPT-recognized Nuclear Weapon States in formalizing a heretofore voluntary testing moratorium, and thus strengthen strategic stability by reducing the salience of nuclear weapons in those states' national defense strategies.

- Seeking commencement of negotiations on a verifiable Fissile Material Cutoff Treaty (FMCT) to halt the production of fissile material for use in nuclear weapons. Given that some states continue to produce fissile materials for nuclear weapons, a multilateral, binding FMCT is needed to provide a quantitative cap on the potential growth of existing nuclear weapons stockpiles. As a result, the United States is committed to prompt negotiation of an FMCT with appropriate monitoring and verification provisions. The United States recognizes that such negotiations will be complex and will take time; however, a carefully crafted and verifiable FMCT will enhance our national security and contribute to nuclear stability worldwide.

- Working with the Russian Federation to jointly eliminate 68 tons of weapons-grade plutonium no longer needed for defense purposes.

- Initiating a comprehensive national research and development program to support continued progress toward a world free of nuclear weapons, including expanded work on verification technologies and the development of transparency measures. Such technologies will help us manage risk as we continue down this path by ensuring that we are able to detect potential clandestine weapons programs, foreign nuclear materials, and weapons production facilities and processes.

A Nuclear Forensics Ground Collection Team in protection equipment screens a debris sample in a field exercise in Idaho. Defense Threat Reduction Agency photo.

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REDUCING THE ROLE OF U.S. NUCLEAR WEAPONS

The role of nuclear weapons in U.S. national security and U.S. military strategy has been reduced significantly in recent decades, but further steps can and should be taken at this time.

The fundamental role of U.S. nuclear weapons, which will continue as long as nuclear weapons exist, is to deter nuclear attack on the United States, our allies, and partners.

During the Cold War, the United States also reserved the right to use nuclear weapons in response to a massive conventional attack by the Soviet Union and its Warsaw Pact allies. Moreover, after the United States gave up its own chemical and biological weapons (CBW) pursuant to international treaties (while some states continued to possess or pursue them) the United States reserved the right to employ nuclear weapons to deter CBW attack on the United States and its allies and partners.

Since the end of the Cold War, the strategic situation has changed in fundamental ways.

First, and foremost, the Soviet Union and the Warsaw Pact are gone. Russia is not an enemy, and is increasingly a partner in confronting proliferation and other emerging threats. And all of the non-Soviet former members of the Warsaw Pact are now members of the North Atlantic Treaty Organization (NATO).

Second, U.S., allied, and partner conventional military capabilities now provide a wide range of effective conventional response options to deter and if necessary defeat conventional threats from regional actors. Major improvements in missile defenses and counter-weapons of mass destruction (WMD) capabilities have strengthened deterrence and defense against CBW attack.

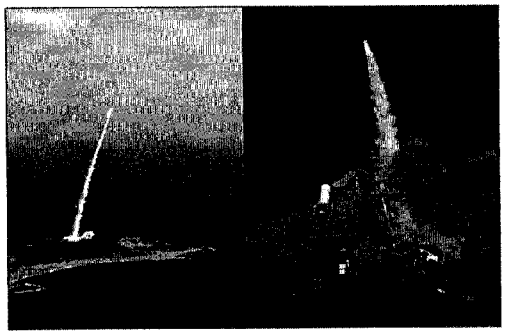
Given these developments, the role of U.S. nuclear weapons to deter and respond to non-nuclear attacks—conventional, biological, or chemical—has declined significantly. The United States will continue to reduce the role of nuclear weapons in deterring non-nuclear attack.

To that end, the United States is now prepared to strengthen its long-standing "negative security assurance" by declaring that the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Non-Proliferation Treaty (NPT) and in compliance with their nuclear non-proliferation obligations.

This revised assurance is intended to underscore the security benefits of adhering to and fully complying with the NPT and persuade non-nuclear weapon states party to the Treaty to work with the United States and other interested parties to adopt effective measures to strengthen the non-proliferation regime.

In making this strengthened assurance, the United States affirms that any state eligible for the assurance that uses CBW against the United States or its allies and partners would face the prospect of a devastating conventional military response—and that any individuals responsible for the attack, whether national leaders or military commanders, would be held fully accountable. Given the catastrophic potential of biological weapons and the rapid pace of bio-technology development, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.

In the case of countries not covered by this assurance – states that possess nuclear weapons and states not in compliance with their nuclear non-proliferation obligations – there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW attack against the United States or its allies and partners. The United States is therefore not prepared at the present time to adopt a universal policy that the "sole purpose" of U.S. nuclear weapons is to deter nuclear attack on the United States and our allies and partners, but will work to establish conditions under which such a policy could be safely adopted.



A medium-range ballistic missile with a separating target is launched from the Pacific Missile Range Facility on Jun. 22, 2007 (left photo). Minutes later, a Standard Missile (SM-3) was launched from the Aegis combat system equipped Arleigh Burke class destroyer USS Decatur (DDG 73), successfully intercepting the ballistic missile threat target (right photo). It was the first time such a test was conducted from a ballistic missile defense equipped-U.S. Navy destroyer. U.S. Navy photos.

Yet this does not mean that our willingness to use nuclear weapons against countries not covered by the new assurance has in any way increased. Indeed, the United States wishes to stress that it would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.

It is in the U.S. interest and that of all other nations that the nearly 65-year record of nuclear non-use be extended forever. As President Ronald Reagan declared, "A nuclear war cannot be won and must never be fought."

In summary, the following principles will guide U.S. nuclear policies:

- The United States will meet its commitment under Article VI of the NPT to pursue nuclear disarmament and will make demonstrable progress over the next five to ten years.

REDUCING THE ROLE OF U.S. NUCLEAR WEAPONS

We will work to reduce the role and numbers of U.S. nuclear weapons while enhancing security for ourselves, and our allies and partners.

- The United States will continue to strengthen conventional capabilities and reduce the role of nuclear weapons in deterring non-nuclear attacks, with the objective of making deterrence of nuclear attack on the United States or our allies and partners the sole purpose of U.S. nuclear weapons.
- The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.
- The United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.

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MAINTAINING STRATEGIC DETERRENCE AND STABILITY AT REDUCED NUCLEAR FORCE LEVELS

Since the end of the Cold War, the United States and Russia have reduced operationally deployed strategic nuclear weapons by approximately 75 percent, but both still retain many more nuclear weapons than needed for deterrence. As an initial step, the Administration is committed to working with Russia to preserve stability at significantly reduced nuclear force levels, through the New Strategic Arms Reduction Treaty (New START).

Beyond New START's bilateral reductions in operationally deployed strategic forces, the NPR examined ways to minimize potential nuclear instability by maximizing the decision time provided to the President. Analysis also focused on our limited non-strategic nuclear weapons posture. Moreover, in our commitment to the long-term goal of a world without nuclear weapons, the NPR examined the full range of factors that will allow deeper reductions in U.S. nuclear force levels.

It is also clear that maintaining strategic stability at reduced force levels will be an enduring and evolving challenge for the United States in the years ahead. Ongoing nuclear and other military modernization efforts by Russia and China compound this challenge, making the need for strategic stability dialogues all the more critical.

Toward New START

U.S. strategic forces – comprised of submarine-launched ballistic missiles (SLBMs), inter-continental ballistic missiles (ICBMs), and nuclear-capable heavy bombers – continue to underwrite deterrence of nuclear attack against the United States, our allies, and partners.

Secretary of State Hillary Rodham Clinton meets with Russian President Dmitry Medvedev and Russian Foreign Minister Sergey Lavrov in Moscow, Russia, Oct. 13, 2009. State Department photo.

In the two decades since the end of the Cold War, the United States has reduced deployed warheads on

strategic delivery systems by approximately 75 percent. The next step in this process is to replace the expired 1991 START I Treaty with another verifiable agreement, New START. U.S. and Russian negotiators have recently completed this agreement.

An early task of the NPR was to develop U.S. positions for the New START negotiations. In so doing, the review explored how a range of force structures might affect strategic stability at lower numbers. Further the NPR considered whether the nuclear Triad of SLBMs, ICBMs, and heavy bombers should be retained, and, if so, the necessary investments to sustain each Triad leg.

Determining New START Positions

Detailed NPR analysis of potential reductions in strategic weapons, conducted in spring 2009, concluded that the United States could sustain stable deterrence with significantly fewer deployed strategic nuclear warheads, assuming parallel Russian reductions. The NPR analysis considered several specific levels of nuclear weapons, all below current levels of approximately 2,200 deployed strategic warheads. Its conclusions, approved by the President, the Secretary of Defense, the Joint Chiefs of Staff, and Commander, U.S. Strategic Command, formed the basis for U.S. negotiations with Russia on New START. Because New START is intended to be only an initial step in a continuing process of bilateral nuclear reductions, this initial analysis used conservative assumptions to determine acceptable reductions in deployed strategic nuclear weapons.

New START will result in significant mutual limits in deployed strategic nuclear warheads, well below the 2,200 allowed under the Strategic Offensive Reductions Treaty (SORT), also known as the Moscow Treaty, which expires in 2012.

The NPR conducted detailed analysis to determine an appropriate limit on nuclear warheads and strategic delivery vehicles (SDVs). After determining that the United States should retain a nuclear Triad under New START, the NPR went on to assess the appropriate force structure for each Triad leg, namely the required numbers of strategic nuclear submarines (SSBNs) and SLBMs, ICBMs, and nuclear-capable heavy bombers. Analysis focused on meeting four requirements:

- Supporting strategic stability through an assured second-strike capability;
- Retaining sufficient force structure in each leg to allow the ability to hedge effectively by shifting weight from one Triad leg to another if necessary due to unexpected technological problems or operational vulnerabilities;
- Retaining a margin above the minimum required nuclear force structure for the possible addition of non-nuclear prompt-global strike capabilities (conventionally-armed ICBMs or SLBMs) that would be accountable under the Treaty; and

- Maintaining the needed capabilities over the next several decades or more, including retaining a sufficient cadre of trained military and civilian personnel and adequate infrastructure.

The 1991 START I, which expired in December 2009, limited the United States and Russia to 1600 SDVs each. While the United States has approximately 1,200 SDVs still accountable under the now-expired Treaty's counting rules, fewer than 900 are associated with deployed strategic nuclear weapons. The remainder are essentially "phantoms:" either conventional-only delivery systems, particularly B-1B bombers and SSGN submarines (converted from SSBNs to carry conventional sea-launched cruise missiles), or ICBM silos and heavy bombers that are no longer in use but which have not yet been eliminated.

The Secretary of Defense, the Joint Chiefs of Staff, and the Commander of U.S. Strategic Command supported reductions in limits on deployed as well as non-deployed U.S. SDVs. This recommendation was conditional on the exclusion of conventional B-1B bombers and U.S. SSGN submarines from accountability under the Treaty and the acceptance of the potential conversion of a subset of the B-52 fleet to a conventional-only capability.

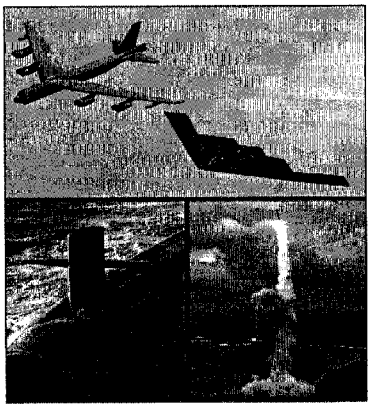
Building on NPR analysis, the United States and Russia have agreed to mutual limits under the New START:

- A limit of 1,550 accountable strategic warheads;
- A separate limit of 700 deployed ICBMs, deployed SLBMs, and deployed nuclear-capable heavy bombers; and
- A combined limit of 800 deployed and non-deployed ICBM launchers, SLBM launchers, and nuclear capable heavy bombers.

Under the New START, dual-capable bombers will count as both one strategic delivery vehicle, and as one warhead. This counting rule was adopted in recognition of the facts that heavy bombers do not pose a first-strike threat to either side, and that on a day-to-day basis few or no bombers are loaded with nuclear weapons.

The Future of the Triad

After considering a wide range of possible options for the U.S. strategic nuclear posture, including some that involved eliminating a leg of the Triad, the NPR concluded that for planned reductions under New START, the United States should retain a smaller Triad of SLBMs, ICBMs, and heavy bombers. Retaining all three Triad legs will best maintain strategic stability at reasonable cost, while hedging against potential technical problems or vulnerabilities.



Air Force Global Strike Command officials assumed responsibility for the Air Force's nuclear-capable bomber force, including the B-52 Stratofortress and B-2 Spirit, Feb. 1, 2010 (top photo). U.S. Air Force photo. An unarmed Minuteman III intercontinental ballistic missile is test launched off the California coast (bottom right photo). U.S. Air Force photo. The U.S. Navy's nuclear ballistic missile submarine USS MAINE (SSBN-741) conducts surface navigational operations (bottom left photo). Photo by PH1 Michael J. Rinaldi.

Each leg of the Triad has advantages that warrant retaining all three legs at this stage of reductions. Strategic nuclear submarines (SSBNs) and the SLBMs they carry represent the most survivable leg of the U.S. nuclear Triad. Today, there appears to be no viable near or mid-term threats to the survivability of U.S. SSBNs, but such threats – or other technical problems – cannot be ruled out over the long term. Single-warhead ICBMs contribute to stability, and like SLBMs are not vulnerable to air defenses. Unlike ICBMs and SLBMs, bombers can be visibly deployed forward, as a signal in crisis to strengthen deterrence of potential adversaries and assurance of allies and partners.

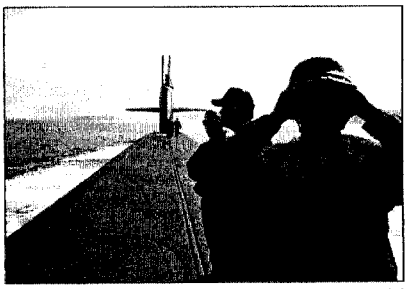
While significantly reducing the size of the technical hedge overall, the United States will retain the ability to "upload" some nuclear warheads as a technical hedge against any future problems with U.S. delivery systems or warheads, or as a result of a fundamental deterioration of the security environment. For example, if there were a problem with a specific ICBM warhead type, it could be taken out of service and replaced with warheads from another ICBM warhead type, and/or nuclear warheads could be up-loaded on SLBMs and/or bombers.

Sustaining Strategic Submarines (SSBNs)

The NPR concluded that ensuring a survivable U.S. response force requires continuous at-sea deployments of SSBNs in both the Atlantic and Pacific oceans, as well as the ability to surge additional submarines in crisis. To support this requirement, the United States currently has fourteen nuclear-capable Ohio-class SSBNs.

By 2020, Ohio-class submarines will have been in service longer than any previous submarines. Therefore as a prudent hedge, the Navy will retain all 14 SSBNs for the near-term. Depending on future force structure assessments, and on how remaining SSBNs age in the coming years, the United States will consider reducing from 14 to 12 Ohio-class submarines in the second half of this decade. This decision will not affect the number of deployed nuclear warheads on SSBNs.

To maintain an at-sea presence for the long-term, the United States must continue development of a follow-on to the Ohio-class submarine. The first Ohio-class submarine retirement is planned for 2027. Since the lead times associated with designing, building, testing, and deploying new submarines are particularly long, the Secretary of Defense has directed the Navy to begin technology development of an SSBN replacement.



Chief Torpedoman Eric Ragan looks through binoculars while watching for a personnel transfer vessel to welcome the newest members of the crew aboard nuclear ballistic missile submarine USS Louisiana (SSBN 743). U.S. Navy photo by Electronics Technician 3rd Class Dominique Cardenas.

Today, there appears to be no credible near or mid-term threats to the survivability of U.S. SSBNs. However, given the stakes involved, the Department of Defense will continue a robust SSBN Security Program that aims to anticipate potential threats and develop appropriate countermeasures to protect current and future SSBNs.

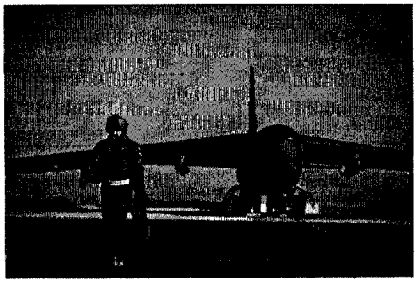
A "DeMIRVed" ICBM Force

Today, the United States has 450 deployed silo-based Minuteman III ICBMs, each with one to three warheads. The NPR considered the type and number of ICBMs needed for stable deterrence, and to serve as a hedge against any future vulnerability of U.S. SSBNs.

The United States will "deMIRV" all deployed ICBMs, so that each Minuteman III ICBM has only one nuclear warhead. (A "MIRVed" ballistic missile carries Multiple Independently-targetable Reentry Vehicles (MIRVs). "DeMIRVing" will reduce each missile to a single warhead.) This step will enhance the stability of the nuclear balance by reducing the incentives for either side to strike first.

ICBMs provide significant advantages to the U.S. nuclear force posture, including extremely secure command and control, high readiness rates, and relatively low operating costs. The Department of Defense will continue the Minuteman III Life Extension Program with the aim of keeping the fleet in service to 2030, as mandated by Congress. Although a decision on any follow-on ICBM is not needed for several years, studies to inform that decision are needed now. Accordingly, the Department of Defense will begin initial study of alternatives in fiscal years (FY) 2011 and 2012. This study will consider a range of possible deployment options, with the objective of defining a cost-effective approach that supports continued reductions in U.S. nuclear weapons while promoting stable deterrence.

A Smaller and Highly Capable Nuclear Bomber Force



U.S. Air Force Capt. Joshua Logie, a B-52 Stratofortress pilot assigned to the 20th Expeditionary Bomb Squadron, Barksdale Air Force Base, completes a flight on Feb. 9, 2010. U.S. Air Force photo by Staff Sgt. Jacob N. Bailey.

The United States currently has 76 B-52H bombers and 18 B-2 bombers that can be equipped with nuclear weapons. The NPR determined that the Air Force will retain nuclear-capable bombers, while converting some B-52Hs to a conventional-only role.

There are two principal reasons to retain nuclear-capable – or more accurately dual-capable – bombers. First, this capability provides a rapid and effective hedge against technical challenges with another leg of the Triad, as well as geopolitical uncertainties. Second, nuclear-capable bombers are important to extended deterrence of potential attacks on U.S. allies and partners. Unlike ICBMs and SLBMs, heavy bombers can be visibly forward deployed, thereby signaling U.S. resolve and commitment in crisis.

U.S. dual-capable heavy bombers will not be placed on full-time nuclear alert, and so will provide additional conventional firepower. The value of heavy bombers has been demonstrated multiple times since World War II, including in Desert Storm, Kosovo, Operation Iraqi Freedom, and Operation Enduring Freedom. The Department of Defense (DoD) will invest more than $1 billion over the next five years to support upgrades to the B-2 stealth bomber. These enhancements will help sustain survivability and improve mission effectiveness.

DoD is studying the appropriate mix of long-range strike capabilities, including heavy bombers as well as non-nuclear prompt global strike, in follow-on analysis to the 2010 Quadrennial Defense Review and the NPR. This analysis will affect the Department's FY 2012 budget proposal. In addition, the Air Force will conduct an assessment of alternatives to inform decisions in FY 2012 about whether and (if so) how to replace the current air-launched cruise missile (ALCM), which will reach the end of its service life later in the next decade.

DoD is also studying emerging challenges in the defense industrial base. As commitments are made to life extend or replace current weapons, challenges are likely to emerge that could impair needed progress. Steps can be taken now to mitigate some of these risks. An example is in the production of solid rocket motors. Across the U.S. Government, there are three users of the solid rocket motor industry: the National Aeronautics and Space Administration (NASA) for shuttle boosters; the Air Force for Minuteman III, and the Navy for Trident II D-5. None of them has immediate plans for a new large solid rocket motor design. With current plans to sustain the

Minuteman III and Trident II strategic missiles for at least another two decades, the nation will need technically skilled personnel to address the unknown future challenges associated with the aging of these systems. In order to revive the health of this industry, a research and development program is being initiated that focuses on commonality between the Military Departments and joint scalable flight test demonstrations.

In sum, the NPR concluded:

- Stable deterrence can be maintained while reducing accountable U.S. strategic delivery vehicles by approximately 50 percent from the START level and reducing accountable strategic warheads by approximately 30 percent from the 2002 Moscow Treaty level.
- During the ten-year duration of New START, the nuclear Triad of ICBMs, SLBMs, and heavy bombers will be maintained.
- All U.S. ICBMs will be "de-MIRVed" to a single warhead each to increase stability.
- Some ability to "upload" non-deployed nuclear weapons on existing delivery vehicles should be retained as a hedge against technical or geopolitical surprise. Preference will be given to upload capacity for bombers and strategic submarines.
- Contributions by non-nuclear systems to U.S. regional deterrence and reassurance goals will be preserved by avoiding limitations on missile defenses in New START and ensuring that New START will not preclude options for using heavy bombers or long-range missile systems in conventional roles.

The NPR conducted extensive analysis of alternative force structures under a New START Treaty, and the Department of Defense will define its planned force structure under the Treaty after taking account of this work. The United States will retain the ability to adjust this posture under New START as needed to account for unexpected technological developments or operational vulnerabilities, or geo-political surprise.

Maximizing Presidential Decision Time

Maximizing decision time for the President can further strengthen strategic stability at lower force levels. Thus, the NPR considered changes to existing nuclear policies and postures that directly affect potential crisis stability, including alert postures and the Nuclear Command, Control, and Communication (NC3) system.

The NPR examined possible adjustments to the current alert posture of U.S. strategic forces. Today, U.S. nuclear-capable heavy bombers are off full-time alert, nearly all ICBMs remain on alert, and a significant number of SSBNs are at sea at any given time. The NPR concluded that this posture should be maintained.

The NPR reaffirmed the current practice of "open-ocean targeting" of all ICBMs and SLBMs so that, in the highly unlikely event of an accidental launch, the missile would land in the open ocean. The United States will ask Russia to reaffirm its commitment to continue this practice, which was mutually agreed in 1994.

Capt. Jeremy Ritter, 490th Missile Squadron (MS) flight commander (right), and 1st Lt. William Springer, 490th MS ICBM combat crew deputy commander (left), are "strapped in" and coordinating with the other launch crews to turn keys to launch their missiles during a simulation in the Missile Procedure Trainer. Crews "strap in" to prevent being thrown around the capsule in the event that they are attacked. U.S. Air Force photo by John Turner.

The NPR considered the possibility of reducing alert rates for ICBMs and at-sea rates 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 retained a significant alert rate.

Looking to the longer term, the NPR initiated studies that may lead to future reductions in alert posture. For example, in an initial study of possible follow-on systems to the Minuteman III ICBM force, the Department of Defense will explore whether new modes of basing may ensure the survivability of this leg of the Triad while eliminating or reducing incentives for prompt launch.

Additionally, the NPR examined the effectiveness of our command and control of U.S. nuclear forces as an essential element in ensuring crisis stability, deterrence, and the safety, security and effectiveness of our nuclear stockpile. The DoD NC3 system enables informed and timely decisions by the President, the sole authority for nuclear employment, and execution of Presidential nuclear response options.

The Secretary of Defense has directed a number of initiatives to further improve the resiliency of the NC3 system and the capabilities for the fully deliberative control of the force in time of crisis. The Department of Defense has taken steps to strengthen NC3 in the FY 2011 budget request, including modernizing "legacy" single-purpose NC3 capabilities to meet current and projected challenges, and continuing to invest in secure voice conferences for NC3. An interagency study is being initiated to determine the investment needed and the organizational structure best suited to further strengthen the NC3 capabilities. This study, led by DoD, will begin in 2010 and provide a long-term strategy that will inform out-year budget submission to Congress.

The NPR concluded that the United States will:

- Maintain the current alert posture of U.S. strategic forces: U.S. nuclear-capable heavy bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs at sea at any given time.
- Continue the practice of "open-ocean targeting" of all ICBMs and SLBMs so that, in the highly unlikely event of an unauthorized or accidental launch, the missile would land in the open ocean. The United States will ask Russia to re-confirm its commitment to this practice.
- Make new investments in the U.S. command and control system to maximize Presidential decision time in a nuclear crisis.
- Explore new modes of ICBM basing that could enhance survivability and further reduce any incentives for prompt launch. Such an assessment will be part of the Department of Defense's study of possible replacements for the current ICBM force.

Non-Strategic Nuclear Weapons

The United States has reduced its non-strategic (or "tactical") nuclear weapons dramatically since the end of the Cold War. Today, it keeps only a limited number of forward deployed nuclear weapons in Europe, plus a small number of nuclear weapons stored in the United States, available for global deployment in support of extended deterrence to allies and partners. Russia maintains a much larger force of non-strategic nuclear weapons, a significant number of which are deployed near the territories of several North Atlantic Treaty Organization (NATO) countries and are therefore a concern to NATO.

Non-strategic nuclear weapons, together with the non-deployed nuclear weapons of both sides, should be included in any future reduction arrangements between the United States and Russia. The United States will consult with our allies regarding the future basing of nuclear weapons in Europe, and is committed to making consensus decisions through NATO processes. In cooperation with allies and partners, the NPR has determined that the following steps will be taken.

- The Air Force will retain a dual-capable fighter (the capability to deliver both conventional and nuclear weapons) as it replaces F-16s with the F-35 Joint Strike Fighter. As described in more detail below, the United States will also conduct a full scope B-61 (nuclear bomb) Life Extension Program to ensure its functionality with the F-35 and to include making surety – safety, security, and use control – enhancements to maintain confidence in the B-61. These decisions ensure that the United States will retain the capability to forward-deploy non-strategic nuclear weapons in support of its Alliance commitments. These decisions do not presume the results of future decisions within

NATO about the requirements of nuclear deterrence and nuclear sharing, but keep open all options.

- The United States will retire the nuclear-equipped sea-launched cruise missile (TLAM-N). This system serves a redundant purpose in the U.S. nuclear stockpile. It has been one of a number of means to forward-deploy nuclear weapons in time of crisis. Other means include forward-deployment of bombers with either bombs or cruise missiles, as well as forward-deployment of dual-capable fighters. In addition, U.S. ICBMs and SLBMs are capable of striking any potential adversary. The deterrence and assurance roles of TLAM-N can be adequately substituted by these other means, and the United States remains committed to providing a credible extended deterrence posture and capabilities.

As these NPR decisions are implemented and as we work with our allies and partners to strengthen security while reducing the role and numbers of nuclear weapons, we will continue close consultations with allies and partners. No changes to U.S. extended deterrence capabilities will be made without continued close consultation with allies and partners.

These decisions are embedded in a broader approach to the emerging challenges of extended deterrence that is reflected in not just the NPR but also the 2010 Ballistic Missile Defense Review (BMDR) and 2010 Quadrennial Defense Review (QDR). The United States seeks to significantly strengthen regional security architectures in a comprehensive way. It seeks improved peacetime approaches that fully integrate "whole of government" approaches as well as the "hard" and "soft power" tools of the United States and its allies and partners, including an overall balance of conventional military power that serves the purposes of security and peace. U.S. nuclear weapons will play a role in the deterrence of regional states so long as those states have nuclear weapons, but the decisions taken in the NPR, BMDR, and QDR reflect the U.S. desire to increase reliance on non-nuclear means to accomplish our objectives of deterring such states and reassuring our allies and partners.

Reinforcing Strategic Stability

Given that Russia and China are currently modernizing their nuclear capabilities – and that both are claiming U.S. missile defense and conventionally-armed missile programs are destabilizing – maintaining strategic stability with the two countries will be an important challenge in the years ahead.

- The United States will therefore pursue high-level, bilateral dialogues with Russia and China aimed at promoting more stable, resilient, and transparent strategic relationships.

A strategic dialogue with Russia will allow the United States to explain that our missile defenses and any future U.S. conventionally-armed long-range ballistic missile systems are designed to address newly emerging regional threats, and are not intended to affect the strategic balance with

Russia. For its part, Russia could explain its modernization programs, clarify its current military doctrine (especially the extent to which it places importance on nuclear weapons), and discuss steps it could take to allay concerns in the West about its non-strategic nuclear arsenal, such as further consolidating its non-strategic systems in a small number of secure facilities deep within Russia.

U.S. Navy Adm. Mike Mullen, Chairman of the Joint Chiefs of Staff, and Gen. Nikolai Makarov, Chief of the Russian Armed Forces General Staff, address the media after counterpart talks in Moscow, Russia June 26, 2009. DoD photo by Mass Communication Specialist 1st Class Chad J. McNeeley.

A bilateral dialogue would also provide an opportunity for the two sides to consider wide-ranging missile defense cooperation, building on a joint statement signed by President Obama and President Medvedev in July 2009, and addressing such areas as integrating U.S. and Russian sensors, developing joint missile defense architectures, and conducting joint testing, research and development, modeling and simulations, and exercises.

With China, the purpose of a dialogue on strategic stability is to provide a venue and mechanism for each side to communicate its views about the other's strategies, policies, and programs on nuclear weapons and other strategic capabilities. The goal of such a dialogue is to enhance confidence, improve transparency, and reduce mistrust. As stated in the 2010 Ballistic Missile Defense Review Report, "maintaining strategic stability in the U.S.-China relationship is as important to this Administration as maintaining strategic stability with other major powers."

Building more stable strategic relationships with Russia and China could contribute to greater restraint in those countries' nuclear programs and postures, which could have a reassuring and stabilizing effect in their regions. It could also facilitate closer cooperation by those two countries with the United States on measures to prevent nuclear proliferation and nuclear terrorism.

Future Nuclear Reductions

The United States is committed to the long-term goal of a world free of nuclear weapons. The President has directed a review of potential future reductions in U.S. nuclear weapons below New START levels. Several factors will influence the magnitude and pace of such reductions.

First, any future nuclear reductions must continue to strengthen deterrence of potential regional adversaries, strategic stability vis-à-vis Russia and China, and assurance of our allies and partners.

This will require an updated assessment of deterrence requirements; further improvements in U.S., allied, and partner non-nuclear capabilities; focused reductions in strategic and non-strategic weapons; and close consultations with allies and partners. The United States will continue to ensure 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.

Second, implementation of the Stockpile Stewardship Program and the nuclear infrastructure investments recommended in the NPR will allow the United States 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. These investments are essential to facilitating reductions while sustaining deterrence under New START and beyond.

Third, Russia's nuclear force will remain a significant factor in determining how much and how fast we are prepared to reduce U.S. forces. Following ratification and entry into force of New START, the Administration will pursue a follow-on agreement with Russia that binds both countries to further reductions in all nuclear weapons. Because of our improved relations, the need for strict numerical parity between the two countries 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.

The President has directed follow-on analysis to the NPR that considers the above three factors, and others as appropriate, to set goals for future U.S.-Russia reductions in nuclear weapons below New START levels. The size and pace of U.S. nuclear force reductions will be implemented in ways that maintain the reliability and effectiveness of our security assurances to our allies and partners.

Following ratification and entry into force of New START, the Administration will pursue discussions with Russia on further reductions and transparency, which could be pursued through formal agreements and/or parallel voluntary measures. These follow-on reductions should be broader in scope than previous bilateral agreements, addressing all the nuclear weapons of the two countries, not just deployed strategic nuclear weapons.

STRENGTHENING REGIONAL DETERRENCE AND REASSURING U.S. ALLIES AND PARTNERS

U.S. allies and partners are on the front lines of a changing global security environment. Some are enjoying unprecedented security and accordingly seek an acceleration of efforts to reduce reliance on nuclear deterrence. Others face new challenges to their security and look to the United States for continued partnership in safeguarding their interests. Among their neighbors are nuclear proliferators, potential smugglers of weapons of mass destruction (WMD), and weak and failing states. Some also feel the pressures of neighboring major powers asserting stronger regional roles, in some cases by nuclear means.

An F-35 Joint Strike Fighter test aircraft undergoes a flight check over Fort Worth, Texas. U.S. Air Force photo courtesy of Lockheed Martin.

Accordingly, the United States is fully committed to strengthening bilateral and regional security ties and working closely with its allies and partners to adapt these relationships to emerging 21st century requirements. We will continue to assure our allies and partners of our commitment to their security and to demonstrate this commitment not only through words, but also through deeds. This includes the continued forward deployment of U.S. forces in key regions, strengthening of U.S. and allied non-nuclear capabilities, and the continued provision of extended deterrence. Such security relationships are critical not only in deterring potential threats, but can also serve our non-proliferation goals – by demonstrating to neighboring states that their pursuit of nuclear weapons will only undermine their goal of achieving military or political advantages, and by reassuring non-nuclear U.S. allies and partners that their security interests can be protected without their own nuclear deterrent capabilities. Further, the United States will work with allies and partners to strengthen the global non-proliferation regime, especially the implementation of existing commitments within their regions.

Security architectures in key regions will retain a nuclear dimension as long as nuclear threats to U.S. allies and partners remain. U.S. nuclear weapons have played an essential role in extending deterrence to U.S. allies and partners against nuclear attacks or nuclear-backed coercion by states in their region that possess or are seeking nuclear weapons. A credible U.S. "nuclear umbrella" has been provided by a combination of means – the strategic forces of the U.S. Triad, non-

strategic nuclear weapons deployed forward in key regions, and U.S.-based nuclear weapons that could be deployed forward quickly to meet regional contingencies.

The mix of deterrence means has varied over time and from region to region. During the Cold War, the United States forward-deployed nuclear weapons in both Europe and Asia, and retained the capability to increase those deployments if needed. At the end of the Cold War, a series of steps were taken to dramatically reduce the forward presence of U.S. nuclear weapons. Today, there are separate choices to be made in partnership with allies in Europe and Asia about what posture best serves our shared interests in deterrence and assurance and in moving toward a world of reduced nuclear dangers.

In Europe, forward-deployed U.S. nuclear weapons have been reduced dramatically since the end of the Cold War, but a small number of U.S. nuclear weapons remain. Although the risk of nuclear attack against North Atlantic Treaty Organization (NATO) members is at an historic low, 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. The role of nuclear weapons in defending Alliance members will be discussed this year in connection with NATO's revision of its Strategic Concept. Any changes in NATO's nuclear posture should only be taken after a thorough review within – and decision by – the Alliance.

In Asia and the Middle East – where there are no multilateral alliance structures analogous to NATO – the United States has mainly extended deterrence through bilateral alliances and security relationships and through its forward military presence and security guarantees. When the Cold War ended, the United States withdrew its forward-deployed nuclear weapons from the Pacific region, including removing nuclear weapons from naval surface vessels and general purpose submarines. Since then, it has relied on its central strategic forces and the capacity to re-deploy non-strategic nuclear systems in East Asia, if needed, in times of crisis.

The Administration is pursuing strategic dialogues with its allies and partners in East Asia and the Middle East to determine how best to cooperatively strengthen regional security architectures to enhance peace and security, and reassure them that U.S. extended deterrence is credible and effective.

Regional Security Architectures

Enhancing regional security architectures is a key part of the U.S. strategy for strengthening regional deterrence while reducing the role and numbers of nuclear weapons. These regional security architectures include effective missile defense, counter-WMD capabilities, conventional power-projection capabilities, and integrated command and control – all underwritten by strong

political commitments. The goal is to ensure that if states attempt to attack U.S. forces or our allies and partners, their attacks will be blunted and their aims denied by an enhanced set of capabilities – and that these states understand this reality and so are deterred from threatening or undertaking such an attack.

Strengthening the non-nuclear elements of regional security architectures is vital to moving toward a world free of nuclear weapons. The United States is positioned with capabilities across all domains to deter a wide range of attacks or forms of coercion against itself, its allies, and partners. Credible deterrence depends on land, air, and naval forces capable of fighting limited and large-scale conflicts in anti-access environments, as well as forces prepared to respond to the full range of challenges posed by state and non-state groups. These forces are enabled by U.S. capabilities to protect its assets in cyberspace and outer space and enhanced by U.S. capabilities to deny adversaries' objectives through resilient infrastructure (including command and control systems), global basing and posture, and ballistic missile defense and counter-WMD capabilities.

Effective missile defenses are an essential element of the U.S. commitment to strengthen regional deterrence against states of concern. Thus, while the United States will maintain a nuclear deterrent to cope with such states, we are also bolstering the other critical elements of U.S. deterrence, including conventional and ballistic missile defense capabilities.

The U.S. nuclear posture has a vital role to play in regional security architectures. Proliferating states must understand that any attack on the United States, or our allies and partners, will be defeated, and any use of nuclear weapons will be met with a response that would be effective and overwhelming. The President, as Commander-in-Chief, will determine the precise nature of any U.S. response. But by pursuing nuclear weapons, such states must understand that they have significantly raised the stakes of any conflict.

Key Initiatives

Enduring alliances and broad-based political relationships are the foundation of strategic stability and security. The United States will work closely with allies and partners across the globe to ensure strong political and military ties, based on a common understanding of the challenges and opportunities of the emerging security environment, and strengthen regional deterrence. The United States will:

- Continue to work extensively with allies and partners to build enhanced regional security architectures, including non-nuclear capabilities for deterrence, helping to build partner capacity, conducting combined exercises and training, and sustaining a forward presence in key regions – as described in the 2010 Quadrennial Defense Review (QDR) and the 2010 Ballistic Missile Defense Review (BMDR).

- Continue and, where appropriate, expand ongoing bilateral and multilateral discussions with allies and partners, including in Europe, Northeast Asia, Southwest Asia, and the Middle East, on the most effective ways to enhance regional stability in the near-term and long-term.

- Work with allies and partners to respond to regional threats by deploying effective missile defenses, including in Europe, Northeast Asia, the Middle East, and Southwest Asia. This includes pursuing a Phased Adaptive Approach in these regions – as described in detail in the 2010 BMDR.

- Strengthen counter-WMD capabilities, including improved U.S. and allied ability to defeat chemical or biological attack. The Department of Defense is significantly bolstering defenses against next-generation chemical weapons and advanced biological weapons – these initiatives are described in more detail in the 2010 QDR.

Members of a joint U.S. and Australian Navy boarding team conduct a security sweep aboard USNS Walter S. Diehl (T-AO 193), Oct. 29, 2009, during a boarding exercise in the South China Sea as part of the Proliferation Security Initiative (PSI) exercise Deep Sabre II. DoD photo by Mass Communication Spc. 2nd Class Seth Clarke.

- Develop non-nuclear prompt global strike capabilities. These capabilities may be particularly valuable for the defeat of time-urgent regional threats. The Administration is currently examining the appropriate mix of such capabilities needed to improve our ability to address such regional threats, while not negatively affecting the stability of our nuclear relationships with Russia or China. Specific recommendations will be made in the fiscal year (FY) 2012 Department of Defense budget.

- Develop and deploy, over the next decade, more effective capabilities for real-time intelligence, surveillance, and reconnaissance capabilities, as well as intelligence analysis to enable rapid processing of data.

- Expand and deepen consultations with allies and partners on policies and combined postures to prevent proliferation and credibly deter aggression.

- Retain the capability to forward-deploy U.S. nuclear weapons on tactical fighter-bombers (in the future, the F-35 Joint Strike Fighter) and heavy bombers (the B-2 and B-52H), and will proceed with full scope life extension, including surety – safety, security, and use

control – enhancements, for the B-61 nuclear bomb, which will be able to be carried by the F-35 and B-2. These decisions do not presume what NATO will decide about future deterrence requirements, but are intended to keep the Alliance's options open and provide capabilities to support other U.S. commitments.

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SUSTAINING A SAFE, SECURE, AND EFFECTIVE NUCLEAR ARSENAL

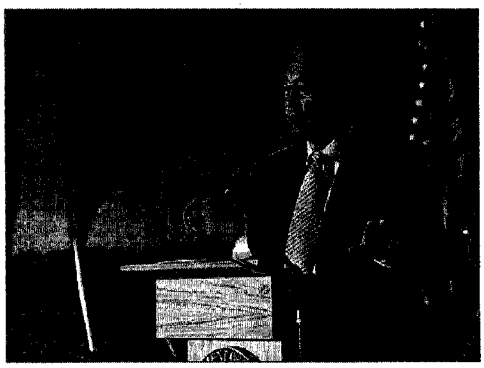
The United States is committed to ensuring that the nuclear weapons stockpile remains safe, secure, and effective. The NPR has made a significant number of decisions to meet this long-term obligation.

Today's nuclear weapons have aged well beyond their originally planned lifetime. Until 1992, the U.S. nuclear stockpile was sustained through continual warhead-type replacement that proceeded from design to test, deployment, and then retirement and replacement by a successor design. Since then, the United States has stopped testing nuclear weapons, maintaining and certifying our warheads as safe and reliable through a Stockpile Stewardship Program that has extended the lives of some warheads by refurbishing them to nearly original specifications.

To sustain a safe, secure, and effective stockpile today, with the ultimate goal of a world free of nuclear weapons in the future, we must prudently manage our nuclear stockpile and related Life Extension Programs (LEPs), while cultivating the nuclear infrastructure, expert workforce, and leadership required to sustain it.

Managing the U.S. Nuclear Stockpile

The U.S. nuclear stockpile includes both deployed and non-deployed warheads. The United States has additional warheads awaiting dismantlement.



Secretary of Energy Steven Chu speaks at a dedication ceremony recognizing the start-up of operations at the nation's new facility for weapons-grade uranium. The Highly Enriched Uranium Materials Facility (HEUMF) – the ultra-secure uranium warehouse at the Y-12 National Security Complex – replaces multiple aging buildings with a single state-of-the-art storage facility. NNSA photo.

Deployed warheads include both strategic (planned to be delivered at intercontinental range and deployed on strategic submarines (SSBNs), intercontinental ballistic missiles (ICBMs), and heavy bombers) and non-strategic weapons assigned a nuclear mission, such as the B-61 bombs deployed in Europe. In the near- to mid-term, the U.S. strategic deployed force

will be reduced through arms control agreements with Russia, initially by the New Strategic Arms Reduction Treaty (New START).

Non-deployed warheads provide logistics spares, support the surveillance program, and hedge against technical or geopolitical surprise. Logistics spares enable the United States to maintain desired quantities of deployed weapons during maintenance and surveillance where some warhead components are destroyed and the warheads are not rebuilt for return to the stockpile. Non-deployed warheads also provide a hedge against technological surprise, such as discovery of a technical problem in a warhead that renders it (and all of its type) non-operational. They also serve as a hedge against geopolitical surprise, such as an erosion of the security environment that requires additional weapons to be uploaded on delivery systems. The non-deployed stockpile currently includes more warheads than required for the above purposes, due to the limited capacity of the National Nuclear Security Administration (NNSA) complex to conduct LEPs for deployed weapons in a timely manner. Progress in restoring NNSA's production infrastructure will allow these excess warheads to be retired along with other stockpile reductions planned over the next decade.

Warheads awaiting dismantlement are those in the queue for disassembly. Today, there are several thousand nuclear warheads awaiting dismantlement, and this number will increase as weapons are removed from the stockpile under New START. We anticipate it will take more than a decade to eliminate the dismantlement backlog. Investments to modernize the nuclear infrastructure, outlined below, will ensure that the United States can continue to decrease this backlog in a responsible manner.

Looking ahead three decades, the NPR considered how best to extend the lives of existing nuclear warheads consistent with the congressionally mandated Stockpile Management Program and U.S. non-proliferation goals. Over that period, every nuclear warhead now in the stockpile will require some level of technical attention. Thus, the Stockpile Management Program will outline ways to ensure the safety and security of warheads over time. While the general parameters of this plan are discussed here, some key information about the specific numbers and types of warheads in different elements of the stockpile are classified, as are specific plans for their future disposition, and will be briefed separately to Congress.

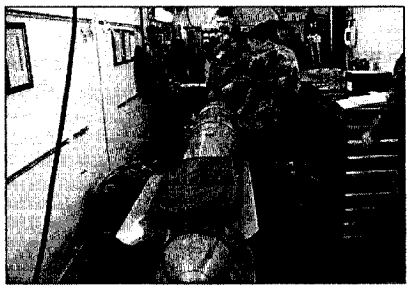
After consideration of how to best manage our current stockpile, the NPR reached the following conclusions to guide future U.S. stockpile management decisions:

- The United States will not conduct nuclear testing, and will pursue ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty.

- The United States will not develop new nuclear warheads. Life Extension Programs will use only nuclear components based on previously tested designs, and will not support new military missions or provide for new military capabilities.
- The United States will study options for ensuring the safety, security, and reliability of nuclear warheads on a case-by-case basis, consistent with the congressionally mandated Stockpile Management Program. The full range of LEP approaches will be considered: refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components.
- In any decision to proceed to engineering development for warhead LEPs, the United States will give strong preference to options for refurbishment or reuse. Replacement of nuclear components would be undertaken only if critical Stockpile Management Program goals could not otherwise be met, and if specifically authorized by the President and approved by Congress.
- The United States will retain the smallest possible nuclear stockpile consistent with our need to deter adversaries, reassure our allies, and hedge against technical or geopolitical surprise.

Using these guidelines, the United States will extend the life of nuclear warheads required for the smaller force structure identified under New START. Consistent with this approach, the NPR recommended that:

- The Administration will fully fund the ongoing LEP for the W-76 submarine-based warhead for a fiscal year (FY) 2017 completion, and the full scope LEP study and follow-on activities for the B-61 bomb to ensure first production begins in FY 2017.



Air Force maintenance technicians work on the B-61 bomb. U.S. Air Force photo.

- The Nuclear Weapons Council will initiate a study in 2010 of LEP options for the W-78 ICBM warhead to be conducted jointly by the National Nuclear Security Administration and the Department of Defense. This study will consider, as all future LEP studies will, the possibility of using the resulting warhead also on multiple platforms in order to reduce the number of warhead types.

- The United States will consider reductions in non-deployed nuclear warheads, as well as acceleration of the pace of nuclear warhead dismantlement, as it implements a new stockpile stewardship and management plan consistent with New START.

The National Nuclear Security Administration (NNSA), in close coordination with DoD, will provide a new stockpile stewardship and management plan to Congress within 90 days, consistent with the increases in infrastructure investment requested in the President's FY 2011 budget. As critical infrastructure is restored and modernized, it will allow the United States to begin to shift away from retaining large numbers of non-deployed warheads as a technical hedge, allowing additional reductions in the U.S. stockpile of non-deployed nuclear weapons over time.

The approach described here will ensure high confidence in the technical performance of warheads retained in the stockpile. It will guarantee that their safety and security are aligned with 21st century requirements (and technical capabilities). At the same time, it will not develop new nuclear warheads, and it will be structured so as not to require nuclear testing. Life Extension Programs will use only nuclear components based on previously tested designs, and will not support new military missions or provide for new military capabilities. This approach sets a high standard for the safety and security of U.S. nuclear weapons and, in support of nonproliferation goals, positions the United States to encourage other nations to maintain the highest levels of surety for their nuclear stockpiles.

Critical Infrastructure and Human Capital

In order to sustain a safe, secure, and effective U.S. nuclear stockpile as long as nuclear weapons exist, the United States must possess a modern physical infrastructure – comprised of the national security laboratories and a complex of supporting facilities – and a highly capable workforce with the specialized skills needed to sustain the nuclear deterrent and support the President's nuclear security agenda.

Today's nuclear complex, however, has fallen into neglect. Although substantial science, technology, and engineering investments were made over the last decade under the auspices of the Stockpile Stewardship Program, the complex still includes many oversized and costly-to-maintain facilities built during the 1940s and 1950s. Some facilities needed for working with plutonium and uranium date back to the Manhattan Project. Safety, security, and environmental issues associated with these aging facilities are mounting, as are the costs of addressing them.

Responsible stockpile management and disarmament require not only infrastructure, but skilled scientists and engineers to manage these efforts. Like our infrastructure, over the last decade our human capital base has been underfunded and underdeveloped. Our national security laboratories have found it increasingly difficult to attract and retain the best and brightest scientists and engineers of today. Morale has declined with the lack of broad, national consensus

on the approach to sustaining warheads and nuclear technical capabilities. The cumulative loss of focus, expertise, and excellence on nuclear matters in the United States remains a significant challenge. A strong national commitment to these important nuclear security objectives is essential to countering this trend.

Increased investments in the nuclear infrastructure and a highly skilled workforce are needed to ensure the long-term safety, security, and effectiveness of our nuclear arsenal and to support the full range of nuclear security work to include non-proliferation, nuclear forensics, nuclear, counter-terrorism, emergency management, intelligence analysis and treaty verification.

Such investments, over time, can reduce our reliance on large inventories of non-deployed warheads to deal with technical surprise, thereby allowing additional reductions in the U.S. nuclear stockpile and supporting our long-term path to zero. A revitalized infrastructure will also serve to reduce the number of warheads retained as a geopolitical hedge, by helping to dissuade potential competitors from believing they can permanently secure an advantage by deploying new nuclear capabilities.

Efforts to strengthen the science, technology, and engineering base and address the problems in the physical infrastructure will help with the human capital problem. A renewal of the sense of national purpose and direction in nuclear strategy will also be helpful. The President has clearly outlined the importance of nuclear issues for our national security, and the importance of keeping the U.S. nuclear deterrent safe, secure, and effective at the minimum numbers required. Further, the Administration's commitment to a clear and long-term plan for managing the stockpile ensures the scientists and engineers of tomorrow will have the opportunity to engage in challenging research and development activities which is essential to their recruitment and retention.

A modern nuclear infrastructure and highly skilled workforce is not only consistent with our arms control and non-proliferation objectives; it is essential to them. By certifying the reliability of each weapon type we retain, the United States can credibly assure non-nuclear allies and partners they need not build their own, while

Aerial photo of the Y-12 National Security Complex, in Oak Ridge, Tennessee. Y-12 plays a vital role in the Department of Energy's Nuclear Security Enterprise helping ensure a safe and reliable U.S. nuclear weapons deterrent. Y-12 also retrieves and stores nuclear materials, fuels the nation's naval reactors and performs complementary work for other government and private-sector entities. Y-12 photo.

seeking greater stockpile reductions than otherwise possible. Further, a corps of highly skilled personnel will continue to expand our ability to understand the technical challenges associated with verifying ever deeper arms control reductions.

Through science and engineering programs that improve the analysis of the reliability of our warheads, we also enhance our ability to assess and render safe potential terrorist nuclear devices and support other national security initiatives, such as nuclear forensics and attribution. Expert nuclear scientists and engineers help improve our understanding of foreign nuclear weapons activities, which is critical for managing risks on the path to zero. And, in a world with complete nuclear disarmament, a robust intellectual and physical capability would provide the ultimate insurance against nuclear break-out by an aggressor.

Additionally, the industrial base activities that support the nuclear enterprise also remain critical to the nation's deterrence posture. Increased surveillance of critical commercial sector human skills, manufacturing capabilities, and sustainment capabilities is required to ensure this infrastructure remains viable to support the enterprise.

The NPR concluded that the following key investments were required to sustain a safe, secure, and effective nuclear arsenal:

- Strengthening the science, technology, and engineering (ST&E) base needed for conducting weapon system LEPs, maturing advanced technologies to increase weapons surety, qualification of weapon components and certifying weapons without nuclear testing, and providing annual stockpile assessments through weapons surveillance. This includes developing and sustaining high quality scientific staff and supporting computational and experimental capabilities. The NNSA will develop a long-term strategy that will describe the ST&E base required to meet the Stockpile Stewardship Program. The report will be delivered to the Nuclear Weapons Council in 2011.

- Funding the Chemistry and Metallurgy Research Replacement Project at Los Alamos National Laboratory to replace the existing 50-year old Chemistry and Metallurgy Research facility in 2021.

- Developing a new Uranium Processing Facility at the Y-12 Plant in Oak Ridge, Tennessee to come on line for production operations in 2021. Without an ability to produce uranium components, any plan to sustain the stockpile, as well as support for our Navy nuclear propulsion, will come to a halt. This would have a significant impact, not just on the weapons program, but in dealing with nuclear dangers of many kinds.

More broadly, the Administration supports the needed recapitalization of the nuclear infrastructure through fully funding the NNSA. New production facilities will be sized to support the requirements of the Stockpile Stewardship Program mandated by Congress and to

meet the multiple requirements of dismantling warheads and eliminating material no longer needed for defense purposes, conducting technical surveillance, implementing life extension plans, and supporting naval requirements. Some modest capacity will be put in place to surge production in the event of significant geopolitical "surprise."

Defense Department Leadership of the Nuclear Deterrence Mission

Sustaining a safe, secure, and effective nuclear arsenal requires sustained and effective leadership. In recent years, it has been necessary for the Department of Defense to renew its commitment to that leadership, following the cumulative loss of focus and expertise on nuclear matters within DoD. The Department has taken a number of steps over the last two years to address these problems, and this NPR reflects a continued high-level commitment to their implementation.

The Task Force on DoD Nuclear Weapons Management generated a large set of recommendations to the Secretary of Defense and the Military Departments. The Secretary of Defense strongly endorsed the recommendations and took steps in 2008 to ensure their timely implementation. U.S. Strategic Command initiated several efforts to address these findings and to ensure a renewed and sustained dedication, to and focus on, the strategic deterrence mission. The U.S. Navy has been focused on continuous improvement of the nuclear enterprise for more than twenty years; most recently evidenced by the establishment of the Nuclear Weapons Senior Leadership Council and OPNAV Nuclear Weapons Council. The U.S. Air Force roadmap titled "Reinvigorating the Nuclear Enterprise" describes ongoing efforts, including the standing-up of the new Air Force Global Strike Command for nuclear-capable bombers and ICBMs, the consolidation of nuclear sustainment efforts in Air Force Materiel Command and the establishment of the Headquarters, U.S. Air Force Assistant Chief of Staff, Strategic Deterrence and Nuclear Integration (HAF/A10).

Defense Secretary Robert M. Gates tells Airmen at Minot Air Force Base that the Air Force's nuclear mission and maintaining its long tradition of excellence are vital to the security of the United States during a visit Dec. 1, 2008. U.S. Air Force photo by Senior Airman Joe Rivera.

Maintaining leadership focus, expertise, and excellence on nuclear capabilities is a fundamental obligation of the Department of Defense. As the United States reduces the role and numbers of nuclear weapons, sustaining a cadre of talented and expert leaders will become more, not less, important.

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LOOKING AHEAD: TOWARD A WORLD WITHOUT NUCLEAR WEAPONS

The U.S. nuclear posture is pivotal to international and national security. While the risk of all-out nuclear war is much diminished relative to the Cold War, nuclear dangers persist and some are increasing. Even as we seek a future world free of nuclear weapons, we are realistic about the world around us, recognizing that this goal will be a long-term effort, not the work of one Administration.

During the Cold War, our nuclear weapons policies and forces were designed to meet two core goals: to deter a massive nuclear or large-scale conventional, biological, or chemical attack by the Soviet Union and its allies; and to reassure our allies and partners that they could count on us to carry out that mission effectively. At the peak of the Cold War, the United States had over 30,000 nuclear weapons, including thousands deployed in overseas locations on short-range delivery systems. The U.S. nuclear weapons production complex constantly developed new types of weapons.

Today, the reassurance mission remains, but the deterrence challenge is fundamentally different. While we must maintain stable deterrence with major nuclear powers, the likelihood of major nuclear war has declined significantly; thus far fewer nuclear weapons are needed to meet our traditional deterrence and reassurance goals. Further, the United States today has the strongest conventional military forces in the world. Our close allies and partners field much of the rest of the world's military power. Moreover, our most pressing security challenge at present is preventing nuclear proliferation and nuclear terrorism, for which a nuclear force of thousands of weapons has little relevance.

As a result of these changes, nuclear weapons play a much more circumscribed role in U.S. national security strategy, a change reflected in the U.S. nuclear posture today. Since the end of the Cold War two decades ago, the United States has cut deployed strategic weapons by approximately 75 percent and has also substantially reduced the overall nuclear stockpile of deployed and non-deployed weapons. As this NPR report makes clear, more can and must be done.

A key focus of the 2010 NPR was therefore to bring our nuclear weapons policies and force posture into better alignment with today's national security priorities. To that end, the NPR decided on a number of steps, many of which have already been initiated or will be pursued in the near term:

- Pursue rigorous measures to reinvigorate the Nuclear Non-Proliferation Treaty (NPT) and the broader non-proliferation regime, and secure vulnerable nuclear materials worldwide against theft or seizure by terrorists;
- Seek ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty and prompt commencement of negotiations on a verifiable Fissile Material Cutoff Treaty;
- Increase efforts to improve nuclear forensics to attribute the source of any covert nuclear attack, so that the United States can hold accountable any state, terrorist group, or other non-state actor that supports or enables terrorist efforts to obtain or use nuclear weapons;
- Adopt a strengthened "negative security assurance" declaring that the United States will not use or threaten to use nuclear weapons against non-nuclear weapon states that are party to the NPT and in compliance with their nuclear non-proliferation obligations;
- Seek ratification and implementation of the New Strategic Arms Reduction Treaty (New START) requiring substantial reductions in deployed U.S. and Russian nuclear forces;
- Structure the reduced U.S. force in a way that promotes stability, including "de-MIRVing" U.S. ICBMs;
- Eliminate the Tomahawk, nuclear-equipped, sea-launched cruise missile (TLAM-N);
- Strengthen regional security architectures and reinforce security commitments to allies and partners by maintaining an effective nuclear umbrella while placing increased reliance on non-nuclear deterrence capabilities (e.g., missile defenses and conventional long-range missiles);
- Work with NATO Allies on a new Strategic Concept that supports Alliance cohesion and sustains effective extended deterrence, while reflecting the role of nuclear weapons in supporting Alliance strategy in the 21st century;
- Pursue high-level dialogues with Russia and China to promote more stable, transparent, and non-threatening strategic relationships between those countries and the United States;
- Continue to posture U.S. forces and enhance command and control arrangements to reduce further the possibility of nuclear weapons launches resulting from accidents, unauthorized actions, or misperceptions and to maximize the time available to the President to consider whether to authorize the use of nuclear weapons;
- Implement well-funded stockpile management and infrastructure investment plans that can sustain a safe, secure, and effective nuclear arsenal at significantly reduced stockpile levels without nuclear testing or the development of new nuclear warheads;

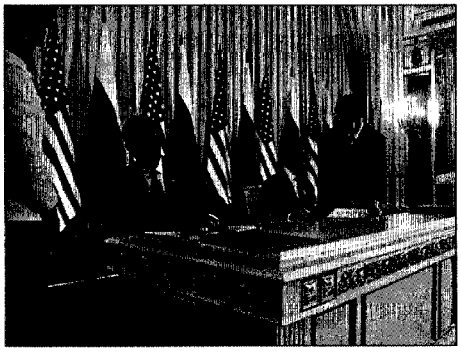
- Complete the Presidentially-directed review of post-New START arms control objectives, to establish goals for future reductions in nuclear weapons, as well as evaluating additional options to increase warning and decision time, and to further reduce the risks of false warning or misjudgments relating to nuclear use; and
- Initiate a comprehensive national research and development program to support continued progress toward a world free of nuclear weapons, including expanded work on verification technologies.

This agenda encompasses a comprehensive set of concrete steps to reduce nuclear dangers to the United States and our allies and partners, to reduce the role and numbers of U.S. nuclear weapons, and at the same time to ensure that nuclear deterrence remains effective for the problems for which it is relevant in today's world.

While the 2010 NPR focused principally on the near term, it also identified a number of longer-term steps to limit nuclear dangers, reduce the role and numbers of U.S. nuclear weapons, and strengthen deterrence of potential adversaries and assurance of U.S. allies and partners. As such, the NPR identified several important objectives toward which the United States should direct future efforts:

- Engage Russia, after ratification and entry into force of New START, in negotiations aimed at achieving substantial further nuclear force reductions and transparency that would cover all nuclear weapons – deployed and non-deployed, strategic and non-strategic;
- Adopt expanded measures to broaden cooperation and transparency, and strengthen strategic stability with Russia and China;
- Continue efforts to strengthen regional security architectures and eliminate chemical and biological weapons, so that over time all states possessing nuclear weapons can be secure in making deterrence of nuclear attack the sole purpose of nuclear weapons;
- Continue to ensure that the United States sustains a safe, secure, and effective nuclear arsenal as long as nuclear weapons exist;
- Following substantial further nuclear force reductions with Russia, engage other states possessing nuclear weapons, over time, in a multilateral effort to limit, reduce, and eventually eliminate all nuclear weapons worldwide;

- Improve nuclear physical infrastructure and human capital to position the United States to safely reduce nuclear weapons, and if international conditions allow, eliminate them altogether. In a world where nuclear weapons had been eliminated but nuclear knowledge remains, having a strong infrastructure and base of human capital would be essential to deterring cheating or breakout, or, if deterrence failed, responding in a timely fashion; and



President Barack Obama and Russian President Dmitry Medvedev sign documents on nuclear arms reduction at the Kremlin in Moscow, Jul. 6, 2009. Official White House photo by Chuck Kennedy.

- Set a course for the verified elimination of all nuclear weapons and minimize risk of cheating and breakout, through increasing transparency and investments in verification technologies focused on nuclear warheads, rather than delivery vehicles.

Toward a World Free of Nuclear Weapons

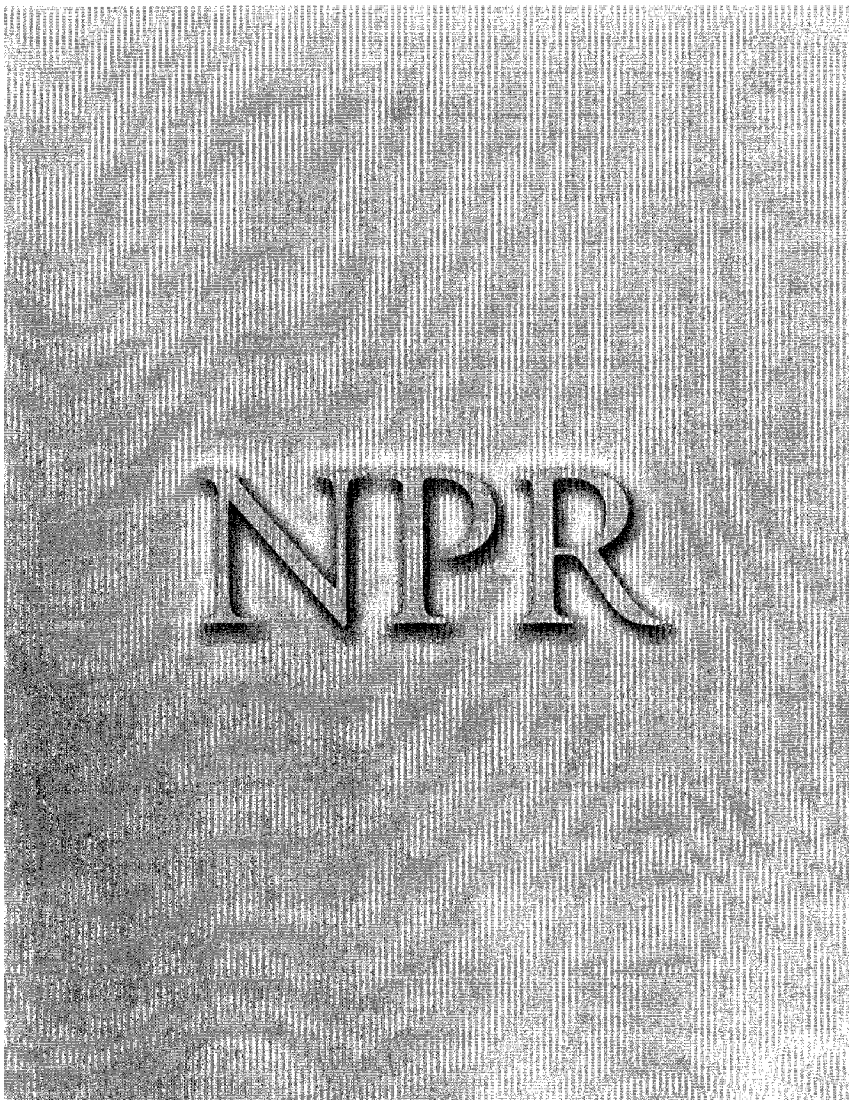
The long-term goal of U.S. policy is the complete elimination of nuclear weapons. At this point, it is not clear when this goal can be achieved. Pursuing these NPR recommendations will strengthen the security of the United States and its allies and partners and bring us significant steps closer to the President's vision of a world without nuclear weapons.

While security arrangements including NATO will retain a nuclear dimension so long as nuclear threats to the United States and our allies and partners remain, we will continue to seek to reduce the role and numbers of nuclear weapons in the future. In the coming years, as U.S. and allied non-nuclear and counter-WMD capabilities continue to improve and regional security architectures are strengthened, and as we assess progress in restraining other threats, including in particular biological weapons, the United States will consult with allies and partners regarding the conditions under which it would be prudent to shift to a policy under which deterring nuclear attack is the sole purpose of U.S. nuclear weapons.

The conditions that would ultimately permit the United States and others to give up their nuclear weapons without risking greater international instability and insecurity are very demanding. Among those are the resolution of regional disputes that can motivate rival states to acquire and maintain nuclear weapons, success in halting the proliferation of nuclear weapons,

much greater transparency into the programs and capabilities of key countries of concern, verification methods and technologies capable of detecting violations of disarmament obligations, and enforcement measures strong and credible enough to deter such violations. Clearly, such conditions do not exist today. But we can – and must – work actively to create those conditions.

The Administration is committed to establishing a sustainable bipartisan consensus on an agenda for American leadership to reduce nuclear risks to ourselves, our allies and partners, and the international community. Together, we can take practical steps immediately and in the near term – starting with those identified in the 2010 NPR – that not only move us toward the ultimate goal of eliminating all nuclear weapons worldwide but can, in their own right, reinvigorate the global nuclear non-proliferation regime, erect higher barriers to the acquisition of nuclear weapons and nuclear materials by terrorist groups, and strengthen U.S. and international security.



[Whereupon, at 11:51 a.m., the committee adjourned.]

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