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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2009

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

STRATEGIC FORCES SUBCOMMITTEE HEARINGS

ON

BUDGET REQUEST ON U.S. STRATEGIC POSTURE AND BUDGET REQUEST FOR STRATEGIC PROGRAMS

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FISCAL YEAR 2009 NATIONAL DEFENSE AUTHORIZATION ACT—BUDGET REQUEST ON U.S. STRATEGIC POSTURE AND BUDGET REQUEST FOR STRATEGIC PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
STRATEGIC FORCES SUBCOMMITTEE,
Washington, DC, Wednesday, February 27, 2008.

The subcommittee met, pursuant to call, at 2:00 p.m., in room 2118, Rayburn House Office Building, Hon. Ellen Tauscher (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. ELLEN O. TAUSCHER, A REPRESENTATIVE FROM CALIFORNIA, CHAIRMAN, STRATEGIC FORCES SUBCOMMITTEE

Ms. TAUSCHER. Good afternoon. This hearing of the Strategic Forces Subcommittee will come to order.

The purpose of today's hearing is to examine the United States strategic posture and the fiscal year 2009 budget request for strategic programs, including nuclear weapons, missile defense, intelligence, and military space assets.

Our committee has jurisdiction over each of these areas, tracking closely with the reach of the U.S. Strategic Command, or STRATCOM. Therefore, I want to thank General Kevin Chilton, commander of STRATCOM, for being here today.

The committee also charges the National Nuclear Security Administration (NNSA) with developing and maintaining the nuclear warheads that support our strategic deterrents. For that reason, I want to thank Mr. Tom D'Agostino, the Under Secretary of Energy for Nuclear Security and Administrator of the NNSA, for appearing here today.

Finally, I want to welcome Assistant Secretary of Defense Michael Vickers, whose portfolio—Special Operations, Low-Intensity Conflict, and Interdependent Capabilities—includes establishing the strategic policies that General Chilton is charged with executing.

We asked each of you to be here today because your interconnected roles are very important to this committee. I believe that, to examine the strategic posture of the United States, each of you are needed to help paint a full picture.

Highlighted through an op-ed authored by former Defense Secretary Bill Perry, former Secretaries of State Henry Kissinger and George Schultz, and former Senator Sam Nunn, there is a growing bipartisan chorus of statesmen and experts calling for the U.S. to adopt a policy designed to achieve a world free of nuclear weapons.

In response, this subcommittee has called for a larger national discussion of this issue, and the Congress has acted. The National Defense Authorization Act (NDAA) establishes a bipartisan commission to examine U.S. strategic posture and recommend an appropriate policy for the 21st century. The goal of the Commission will be to determine the proper balance between our nuclear and conventional forces and review the roles of our Nation's nonproliferation and Missile Defense Program.

I hope that each of you here today can assure the subcommittee that the Administration will fully support this bipartisan Commission.

We would also like your input on what key questions the Commission should consider. What do you think has changed in our security environment since the last Nuclear Posture Review, NPR, that should be explored? And how has the concept of strategic deterrence shifted since the end of the Cold War?

Since we have both the head of STRATCOM and the NNSA with us, I would ask that both parties give us a sense of how the Administration is looking at Reliable Replacement Warhead (RRW) this year as well as Complex Transformation from both a programmatic and strategic perspective.

During the past year, we have had vigorous discussions here and abroad over the U.S. proposal to install missile defense interceptors in Poland and a radar in the Czech Republic. I have traveled to Europe several times over the past year to show our European allies how seriously we take our shared security interests.

I have urged the Administration to work through the National Atlantic Treaty Organization (NATO) to establish a joint U.S.-European missile defense capability. I have urged them to "NATO-ize" the shield and focus on the threat posed by short-and medium-range missiles pointed at Europe and our forward-deployed troops.

Our key concern about missile defense is that the Bush Administration's budget request appears to delay the use of a very important system for defeating short-and medium-range missiles—Terminal High Altitude Area Defense (THAAD). In that regard, we are particularly interested in the warfighter's perspective on the requirements for these and other systems designed to defeat the threat posed by short-and medium-range missiles.

Finally, one year ago, we dealt with an ill-advised and dangerous Chinese anti-satellite test (ASAT). Just last week, we witnessed the U.S. successfully intercept a failed satellite on the verge of reentering the atmosphere and threatening populated areas with 1,000 pounds of hydrazine fuel. The missile we used to intercept this satellite was part of our Aegis Ballistic Missile Defense System (BMD).

I applaud the open manner in which our military has explained and executed this mission. As I see it, our Nation took responsibility for eliminating a risk we created ourselves.

General Chilton, you and General Cartwright, as well as your whole team, should be commended for a job well done. We used a defensive system to defend life, limb, and property. The Commanding Officer and the crew of the *Lake Erie* deserve our congratulations and thanks for a very tough job.

I also see this event as a sign that the U.S. must establish more thoughtful international protocols for space-faring nations. As a Nation critically dependent on space assets, such steps are vital to our national security interests.

Today, I would ask you to address the following concerns about our space assets: What is our national and military policy if our space assets are attacked? Do we have contingency plans for closing the intelligence, surveillance, and reconnaissance (ISR) gaps that our warfighters would experience? And, finally, what are the merits and drawbacks of establishing rules for the road in space?

While we are all acutely aware of the stress six and a half years of war have placed on our military, I want to be clear: The United States faces pressing strategic challenges beyond Afghanistan and Iraq. This subcommittee takes these issues seriously, and we intend to advance the discussion and chart the right path for the United States.

Now let me turn to our Ranking Member, Mr. Everett, for any comments he might have.

But, before I do, I just want to take note that, as we kick off the fiscal year 2009 authorization cycle, we do so mindful that our ranking member will be retiring at the end of the year.

Mr. Everett, you have been a great asset to Congress and to the American people, and a credit to your constituents, and to this committee and subcommittee. I am grateful to you for your good work, and your partnership, and your friendship, and I want you and our audience to know that I will be working with Chairman Skelton to honor your service in the fiscal year 2009 National Defense Authorization Act.

Mr. Everett, the floor is yours.

OPENING STATEMENT OF HON. TERRY EVERETT, A REPRESENTATIVE FROM ALABAMA, RANKING MEMBER, STRATEGIC FORCES SUBCOMMITTEE

Mr. EVERETT. Madam Chairman, I do not know how to follow that. Thank you very much. You are most kind to make that statement, and I do appreciate—very much appreciate—our friendship, and I appreciate the work that I am going to mention that you have done in this committee. I am going to mention it in my opening statement.

And I also want to join you in recognizing our witnesses today for appearing before us.

We welcome you back, General, in your new position.

General CHILTON. Thank you, sir.

Mr. EVERETT. I will say you have my congratulations or condolences, whichever you prefer. But, no, we appreciate the expertise that you bring to that position.

And I also want to join the chairman in congratulating our witnesses for their efforts in successfully intercepting a disabled National Reconnaissance Office (NRO) satellite last week. This challenging mission was not one you had envisioned or one you had a lot of time to prepare for, yet you did the job well and safeguarded the public from potential harm. I commend the transparent manner in which your plans and intent were communicated to Congress, to the American people, and to the international community.

At a hearing two weeks ago, the Deputy Director of National Intelligence, Dr. Fingar, testified on the broad global threat and challenges facing the United States. Chief among these include the continuing terrorist threat, weapons of mass destruction (WMD)-related proliferation, Iran and North Korea's WMD and missile programs, increasing cyber-attacks on the U.S. networks, Pakistan nuclear security, growing counterspace threats, and China People's Liberation Army (PLA) modernization. These are the security challenges that will continue to shape our strategic forces posture and policy well beyond traditional nuclear deterrence.

I would like to hear from our witnesses their thoughts on the change in strategic environment, and its implications for our defense policy and capability needs. I remain concerned about our space protection posture and how our military operates in a space threat environment. Do military contingency plans and exercises consider satellite attacks? I am told that we have workarounds and alternatives, but I have found that when I pull a thread, there is very little detail.

And perhaps, Madam Chairman, we could have a classified briefing on this later on.

The Chinese ASAT test remains a stark reminder to me of what we are up against. The Chinese and others must know that attacks against our satellites are simply unacceptable.

I appreciate your thoughts on policy options, Mr. Vickers, to deter others from holding our space assets at risk and how we can develop a more robust space architecture.

We have similar challenges in the cyber domain. I will be the first to say this is an even less understood security risk than space. Your observations are valued as we examine the National Cyber Initiative and get our arms around the cyber elements spread across the Federal Government. Last year, commanders from U.S. Strategic Command (STRATCOM), U.S. Pacific Command (PACOM), and U.S. Forces Korea (USFK) testified to the need for more missile defense inventory to keep pace with growing missile threats.

General Chilton, I would like to ask you to discuss the warfighters missile defense force structure requirements. I would also like your assessment on the missile defense test program and when you would have confidence in the operational effectiveness of the missile defense system.

President Bush has met with Prime Minister Topolanek earlier today and discussed the importance of missile defense and collective security. Polish Prime Minister Tusk visits the U.S. next month.

I understand teams of Czech, Polish, and U.S. negotiators have worked incredibly hard to obtain missile defense agreements. I want to publicly thank them for their efforts and encourage a speedy conclusion.

I would also publicly like to thank our chairman for the efforts that she has made, which have been tremendous, in this endeavor. She has done it in a very diplomatic way, and yet she, in my estimation, has moved the process forward.

These efforts reflect a shared commitment to our relationships with our collective security. I hope our witnesses will expand upon these negotiations.

I also understand we are making progress in NATO integration. There again, I would like to thank the chairman for what she has done in that regard.

I was recently briefed on the joint missile defense scenarios being run between MDA and C2BMC System and NATO's Prototype Command and Control System. Building upon the 2001 Nuclear Posture Review, the secretaries of defense, state, and energy released a statement last summer on U.S. national security and nuclear weapons and stated their intent to provide a detailed strategy later this year.

With the witnesses assembled today, we have an opportunity to discuss policy issues associated with strategic deterrence, the military's nuclear requirements, their assessment of the current nuclear stockpile and Reliable Replacement Warhead Program, and the viability, long-term risk, and force structure implications of the future with life-extension weapons and RRW.

Before I close, I would like to acknowledge NNSA and the Administration, and credit them with implementing the largest nuclear stockpile reduction since the end of the Cold War. NNSA's dismantlement rates are at an all-time high. The Moscow Treaty deductions for operational deployed strategic warheads are on track.

The stockpile reduction directed by the President in 2004 to cut the 2001 nuclear weapons stockpile by 50 percent by 2012 has already been accomplished, and an additional 15 percent reduction was announced last September, and the nonproliferation program has expanded to reflect the evolving proliferation threats.

Again, I want to pay tribute to our chairman. Much of what we have done in this committee has been through her leadership, and I am really proud to be associated with this committee under her leadership.

Thank you very much.

Ms. TAUSCHER. Thank you very much, Mr. Everett.

I will note for our witnesses that we have received your prepared statements and are very appreciative that you have provided them to the committee ahead of this afternoon's hearing, and if you would like to summarize your prepared testimony, we will be able to move more quickly to questions.

General Chilton, we will start with you. The floor is yours.

STATEMENT OF GEN. KEVIN P. CHILTON, COMMANDER, UNITED STATES STRATEGIC COMMAND, U.S. AIR FORCE

General CHILTON. All right. Thank you.

Thank you, Madam Chairman and Representative Everett both, for your leadership, and members of the committee, thank you very much for this opportunity to be here and share my thoughts with you and answer the questions that you have with regard to where we are in STRATCOM and where we are headed.

I also want to thank not only the members personally, but also your staffs for the great support and open dialogue we have had between myself and your staffs, and my staff and your staffs. I

think it is one of the healthiest relationships we have, and I am committed to continuing that open dialogue between STRATCOM and the members of this committee and their staffs.

And I would be remiss if I did not thank you for your support of our men and women in uniform.

I have been before this committee before in other hats. This is my first time as the STRATCOM Commander and as a Joint Commander of Army, Navy, Air Force, Marines, and it is a proud opportunity that I have.

So it is congratulations, not condolences, Mr. Everett, and I thank you for that.

To have this job, as the STRATCOM Commander, is both humbling, but also incredibly rewarding considering the quality of people that I work with, and the dedicated men and women we have serving STRATCOM, which not only wear a uniform—we have a tremendous number of civil servants in STRATCOM that support our operations day in and day out, just as dedicated as our men and women in uniform. I have become very proud of them and very humbled that I can lead them.

If I could, I would appreciate if my statement could be submitted for the record, ma'am.

Ms. TAUSCHER. Without objection.

General CHILTON. Thank you.

I will just to summarize just at the new commander briefly my observations on the command and where I am taking the command.

First of all, I spent the first month immersing myself in the command and going out and visiting all my component commanders and also taking the advice of Senator Nelson, who in my preparations for confirmation hearings, commended that I go out and immerse myself also in the nuclear enterprise, and so I have been out and visited all of our laboratories in the Department of Energy (DOE). I have the Pantex Plant on my schedule, as well as a visit to Y–12 yet to come, and so I have taken that advice to heart.

As I look at the missions assigned to STRATCOM, we have a lot of missions, a diverse set of missions, but what I found is there is a thread that runs through all of our mission areas, and that is they are global in nature. So STRATCOM truly has a global focus. In fact, it may be better named a global command. But that is our focus, and those are our mission areas.

But with eight mission areas, if all are important, the feeling is that nothing is important, if they are all equally important. So I had to focus myself on energy, and I have looked at these mission areas very closely, and I divided them into two major groups.

One group is where I have forces assigned to STRATCOM, which are conducting daily operations, 24–7, in mission areas, where I have subordinate commanders who can do planning and who can pass my orders on to tactical-level commanders and execute things day in and day out. These are the mission areas that require 24–7 attention by the command.

They are mission areas that operate daily across global boundaries and are totally agnostic to lines drawn on a map. Regional, state boundaries, indeed continents do not matter to these mission

areas, and these mission areas are strategic deterrence, space, and cyberspace.

And so I have made the effort to increase the staff at the headquarters' focus and the command's focus—daily focus—on not only executing the missions we are assigned in these areas every day, but making sure we are doing it in an integrated fashion.

The other mission areas we have are no less important, but in these mission areas, I found we do not have forces assigned from the services to conduct operations, and rather than having a focus of operating across boundaries, these mission areas require STRATCOM to lead in knitting together the seams between boundaries in the regional combatant commands. And this would be in the areas of integrating missile defense, combating weapons of mass destruction, information operations (IO), not to include network operations, and ISR.

I do not own a single ISR platform. I do not own any WMD forces to go out and carry out that mission. I do not own IO forces that conduct psychological operations or military detection, nor do I have my finger on the trigger of our Missile Defense Program, but our job is a very important one, is to make sure that these global capabilities that have global concerns, cross-cutting concerns, are knitted together appropriately, and we take that mission set very seriously, equally seriously.

I guess I would close by saying that is the focus I have tried to bring. I have also made some adjustments in the headquarters to refocus on these areas, to bring the integration function up to the headquarters, to reemphasize our leadership role and responsibility, particularly in the nuclear mission area, and we have made some changes there that I think are moving the ball forward for the future.

And you know what? It is pretty easy when you have the kind of people I have working for me to make these kind of changes and to move forward.

Again, I thank you for this opportunity to be with you today.

[The prepared statement of General Chilton can be found in the Appendix on page 29.]

Ms. TAUSCHER. Thank you, General Chilton.

Under Secretary D'Agostino, the floor is yours.

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

Mr. D'AGOSTINO. Certainly. Thank you, Madam Chair. I appreciate the opportunity to testify here today before the committee.

I also appreciate the time you took this morning, and the committee took this morning, with Chairman Skelton to talk to Deputy Administrator Will Tobey. He was pleased to be able to talk about the programs on the nonproliferation side.

I would also like to point out we have a few of our future leaders, I believe, sitting in the back, as we have done in the past, give them an opportunity to see this country at work, and so I am always pleased to have them with me.

Mr. Everett, I appreciate your comments on the changes and the improvements we have made in the stockpile, particularly our work

in dismantlement. We are very proud of that record, and we have a lot more work to do, and we plan on continuing to focus.

The work done at the Pantex Plant, of course, is a key part of that, as it is at Y–12. So we are going to keep the attention on that particular element because it not only helps us with dismantlement, but it helps hone our skills that we need in order to deliver products to the Defense Department (DOD).

I feel the nuclear weapons complex is at a crossroads. Maintaining the status quo and just keeping our complex kind of doing what we did last year is not really an option, and I think delay and inaction will only increase the costs and elevate the risks associated with manufacturing and maintaining an aging stockpile.

Regardless of stockpile transformation plans, and while we are shrinking the total size, facilities need to be upgraded, and the challenge for us will be to move from an aging nuclear weapons complex designed for the Cold War and move that and shift that toward a 21st century national security enterprise that is integrated, that is cost effective, and that eliminates unnecessary redundancy, but also is at the forefront of science and technology.

In addition, our 21st century enterprise will continue to leverage the scientific underpinnings of the historic nuclear weapons mission to respond to a full range of national security challenges that we have and, beyond nuclear weapons sustainment, shift those more toward nuclear counterterrorism and nuclear nonproliferation activities. And, as an example, we provide technical support to the Defense Department and the Federal Bureau of Investigations (FBI) and emergency-render safe and post-event nuclear technical forensics activities, and a lot more needs to be done in that area, and we are going to be looking to shift more toward that area.

Infrastructure improvements are a major part of the Complex Transformation plan that we have, and we have made important progress, but we have a lot more to do. Some major facilities that we have date back to World War II and cannot readily meet today's safety and security requirements. Let me give you just two quick examples, if I could.

A sufficient capability to work with plutonium is an essential part of a national security enterprise and is required for as long as we retain a nuclear deterrent, and most likely even longer. Currently, we have a very small production capacity at Los Alamos, about 10 pits per year, at our TA–55 area. Our building at Los Alamos, the Chemistry and Metallurgy Research Facility, is well over 50 years old and is insufficient to support the national security requirements for the stockpile and for future national security mission areas.

So, whether we continue on our existing path or move toward a replacement modern warhead-type stockpile, we still need the capacity to produce about 50 to 80 pits per year, which is less than one-tenth of our Cold War level, as well as the ability to carry out Pit Surveillance, which is an essential part of maintaining our stockpile.

The second example is uranium component production. Every warhead, whether it is refurbished or replaced, will need uranium components. Our current facilities date back to the Manhattan Project. Securing these facilities from terrorist threats in a post–

9/11 environment is increasingly difficult and increasingly costly, particularly, also, operating them with modern safety requirements and standards that we expect.

So the construction of our highly enriched uranium materials facility at Y–12 is going to allow us to consolidate our uranium storage with a significantly reduced security footprint and more work will be needed in that area.

I would like to turn briefly to the stockpile. The stockpile has not required nuclear testing to date, but keeping this stockpile healthy has become an increasingly difficult challenge. Periodically, we identify problems with the warheads that in the past would have been resolved with nuclear tests. Our Stockpile Stewardship Program (SSP) has worked well so far to help us avoid that prospect.

And the considered judgment of the National Weapons Laboratory directors, however, is that maintaining certification of finely-tuned designs of an aging Cold War stockpile through life-extension programs (LEPs) without underground testing involves increasing risk. An alternative path could be a stockpile based on replacement warheads that, unlike Cold War warheads, would be designed for certification without additional testing.

Indeed, our experts from our laboratories—again, their best technical judgment today is that it will be less likely that we would need to conduct nuclear testing to maintain safety, security, and reliability into the future if we pursue this modern replacement path, than if we continued on working on our legacy warheads.

In December, I provided Congress classified information giving further details on these matters, and I am aware also that we had our lab directors talk to the committee a few weeks back to talk about these matters.

We are often asked why do we believe it is so important to study reliable replacement concepts now, and there are a number of reasons. First, the study will provide critical information to ensure that the next Administration, as well as the bipartisan Commission that this committee has established, can complete the timely review of the nuclear posture. Providing information to the committee, I think, is very important for that committee to understand all the implications of modern replacement concepts, that those things can provide.

Second, we have concerns about our ability under life-extension only strategy to ensure the long-term safety and reliability of today's stockpile, absent testing, and what that might mean for our stockpile makeup.

Third, we have warheads that have 1960s to 1980s safety, security, and antiterrorism features. It does not mean that these warheads are not currently safe and secure, but we can and should do better, and I believe that these reliable replacement concepts provide opportunities to incorporate the latest technological advances for precluding unauthorized use in a post–9/11 environment. It would be very difficult to back fit these into existing Cold War warheads.

Fourth, nuclear skills are absolutely vital to the nation, not just for sustaining our deterrent, but also in such areas as nuclear forensics, nuclear counterterrorism, and in solutions for the intel-

ligence community. In a few years, nearly all of the older generation will have retired.

Finally, the Department of Energy continues to believe that these concepts make sense and are worth studying due to its enabling features for the future stockpile.

The foundation for future reductions, in my view, are the ability to transform the nuclear weapons complex into a responsive infrastructure and responsive enterprise; ongoing efforts to understand the challenges to the stockpile and modern means of addressing these challenges; and efforts between future Administrations and Congress to restore a consensus on the future nuclear deterrent force posture and the resulting stockpile that results from all this.

I recognize that the completion of the Reliable Replacement Study was not funded in the 2008 Omnibus Appropriations Act, in part due to concerns that the Administration had not fully communicated its policies which guide nuclear forces posture and programs.

The Administration will shortly provide to Congress a second paper to accompany its white paper on nuclear policy that was transmitted last year. This second paper will outline in detail the strategy which guides our programs, including the size of the stockpile.

Our goal is to complete the study as a means to assure that the next Administration, as mandated by Congress, can complete its nuclear policy.

Thank you very much for the time to make these statements, and I look forward to your questions.

[The prepared statement of Mr. D'Agostino can be found in the Appendix on page 50.]

Ms. TAUSCHER. Thank you, Under Secretary.

Assistant Secretary Vickers, welcome to the subcommittee.

Secretary VICKERS. Thank you very much.

Ms. TAUSCHER. Thank you again for being here. The floor is yours.

STATEMENT OF HON. MICHAEL VICKERS, ASSISTANT SECRETARY OF DEFENSE FOR SPECIAL OPERATIONS, LOW-INTENSITY CONFLICT, AND INTERDEPENDENT CAPABILITIES, U.S. DEPARTMENT OF DEFENSE

Secretary VICKERS. Chairwoman Tauscher, Ranking Member Everett, thank you for your leadership and the support you provide to our strategic forces.

Distinguished members of the subcommittee, thank you as well.

I appreciate the opportunity to be here today with you to report on the progress we are making in transforming our strategic capabilities to meet 21st century challenges. Indeed, as both you, Chairwoman Tauscher, and you, Ranking Member Everett, noted in your opening remarks, the strategic environment has changed dramatically since the end of the Cold War, and I would be happy to talk about that in greater detail in the question-and-answer session.

To summarize, we have made considerable progress in the area of missile defense, substantially less progress in the areas of strategic strike, and we are working very, very hard to develop appro-

priate policies and capabilities in the rapidly evolving areas of space and information operations.

Our nuclear forces remain our ultimate deterrent, and we look forward to supporting the efforts of the Bipartisan Commission on Nuclear Policy and Strategy in the 21st Century.

We believe at some point, as Under Secretary D'Agostino said, our Nation will require modernized nuclear warheads. We believe those warheads would provide similar capabilities to the warheads we currently have, but would be less sensitive to manufacturing tolerances, aging of materials, hopefully be certifiable without nuclear testing, and very importantly have advanced safety and security features.

As Under Secretary D'Agostino noted, we believe modernization of the infrastructure is even more important.

I want to thank members of the subcommittee for your support of Prompt Global Strike (PGS). The funds that have been appropriated allow us to conduct research and development on a wide-range of technologies that hopefully will lead to an important capability in the near-to mid-term.

In missile defense, we now have a multilayered initial system that is available today to protect the U.S. homeland, as well as our deployed forces, and our friends and allies. The U.S. remains committed to working with our allies in the field of missile defense.

Japan reached a very important milestone this December when its Kongo Surface Combatant successfully intercepted a ballistic missile target with an SM–3 interceptor.

We are concluding our negotiations on basing our long-range missile defense elements in Poland and the Czech Republic. We are cautiously optimistic that we will be able to complete an agreement with the Czechs imminently and with the Poles soon thereafter.

It is our hope that at the upcoming Bucharest Summit in April, that NATO will be in a position to recognize the growing missile threat to Europe and support territorial defense as a means of addressing that threat and welcome the U.S. contribution to European missile defense, while recognizing that the Europeans have important work to do themselves.

Because we wish to allay Russian concerns, we have met a number of times, over the past year, to share intelligence information, discuss transparency and confidence-building measures, and seek ways in which we could work jointly with them to address ballistic missile threats. We remain committed to working with them to address this common threat, while demonstrating that our missile defense program poses no threat to their strategic forces.

We face a widening range of threats to our space capabilities, such as radio frequency jamming, laser blinding, and anti-satellite systems. The maturation of these threats requires a broad range of capabilities and options, from diplomatic to military, to assure our space capabilities and to protect our vital interest in space.

The Department's investment strategy in space seeks to balance a number of requirements. We need to modernize Space Situational Awareness (SSA) capabilities, improve protection plans for space assets, develop architectural solutions, including Operationally Responsive Space (ORS) concepts, and then establish an operations posture to be able to respond to attack and maintain the ability to

deny adversaries the use of space capabilities that could harm our forces or our homeland.

In implementing our national space policy, we support U.S. Government efforts to promote safe, and responsible use of space and support voluntary guidelines for safe space operations.

Finally, in the area of cyberspace, both Nation States and nonstate actors continue to seek ways and means to counter the advantages we obtain from our use of information and to turn those same advantages against us in both conventional and unconventional ways. We are working very closely with our interagency partners to scope the missions that we will be asked to conduct, address our respective roles, both active and supporting, and determine how best to address potential adversaries' attempts to counter our information advantages. We are making progress, but much remains to be done.

In conclusion, transformation of our Nation's strategic capabilities to meet the uncertainties and challenges ahead depends critically on a sustained partnership between the Department of Defense and Congress. I look forward to working with you to achieve our shared goals for developing and deploying the strategic capabilities our Nation requires.

Thank you.

[The prepared statement of Secretary Vickers can be found in the Appendix on page 61.]

Ms. TAUSCHER. Thank you.

General Chilton, and probably for also Assistant Secretary Vickers, I am deeply concerned that the Strategic Arms Reduction Treaty (START) is going to expire in 2009, and I believe that the United States should begin negotiating now on a binding verifiable agreement that would lead to further reductions in deployed nuclear forces.

In your view, what are the risks and benefits to the United States of reducing the number of operationally deployed nuclear warheads below the Moscow Treaty's range of 1,700 to 2,200?

General CHILTON. Ma'am, I will take your question with regard to comfortability of the combatant commander below those numbers, given our current infrastructure, and then I would ask Secretary Vickers to comment on prospects of a follow-on for the treaty.

Having looked at the nuclear infrastructure that Secretary D'Agostino just reviewed for us and the condition that it is in today—the fact that we do not have a production capability, which means we do not have the flexible infrastructure required to deal with an uncertain strategic future, which I think was another line of questioning I am looking forward to talk about given the age of our warheads and that we are not yet closed on whether we are going to go down a life extension or a modernized weapon program, but the distinct need that I feel as the combatant commanders, that as I look to the future, I will not have the tools to conduct my strategic deterrent mission if we do not move out in directions appropriately—given that construct, I am comfortable with 1,700 to 2,200 today, but I am not comfortable with considerations below that until we have that flexible capability, as a combatant commander.

Ms. TAUSCHER. And before we go to Assistant Secretary Vickers, I just want to pull that string just a little bit because it seems to me that it would not only be the question of flexibility, but is it also about responsiveness of the complex?

General CHILTON. It is. Yes, ma'am. And I assume that word when I say flexibility, and I should not.

When you have a responsive complex that has the capacity to flex to production as you may need it or adjust your deployed force posture in the future, should you need it—in other words, if we go to a lower number—you need to be certain that you can come back up, should the strategic environment change, and you cannot necessarily without that flexible or responsive infrastructure behind it, and that is probably one of my great concerns.

And then how you posture both the portion of your stockpile that you hold in reserve, and your confidence in the weapons that you have deployed, is very much a function of modernizing, in my view, the weapons systems that we have available today, which are, as the Secretary described, of Cold War legacy design, and the associated issues with them.

Ms. TAUSCHER. One more quick one before we go to Assistant Secretary Vickers. I do not want to put words in your mouth, but am I hearing you say that the more confidence you have in the existing responsive complex and in the weapons themselves, the more likely it would be that hedge weapons, so to speak, the reserve weapons, would be less important to maintain?

General CHILTON. Yes. You are not putting words in my mouth. I mean, that is what I have said before, and I believe firmly that if we can build a modern weapon that has increased reliability, the safety and security that we need for the threats that we face today, and is maintainable, and we have the responsive infrastructure that allows us to maintain them and also account for strategic uncertainty in the future, then the need for the large number of hedge weapons that we have on the shelf, that part of the on-the-shelf stockpile, part of the stockpile that is on the shelf, I believe can be dramatically reduced.

Ms. TAUSCHER. Assistant Secretary Vickers.

Secretary VICKERS. I concur fully with General Chilton's assessment of where we are and what would enable us to go forward. The Administration is committed to pursuing a post-START agreement with the Russians. We are in the early stages of that, however.

Ms. TAUSCHER. We would, I think, like to know more about that. So perhaps we can get together and you can inform us as to where we are in that because I think that we do not want this just to begin to lapse as the Administration moves out the door and find ourselves in a gap period——

Secretary VICKERS. Yes, ma'am.

Ms. TAUSCHER [continuing]. Especially with the change of Administration in Russia. It is important that we keep those lines open.

Well, General Chilton and Assistant Secretary Vickers, in many ways, are the client or the users of these weapons Under Secretary D'Agostino. I guess I am moving over to you to talk about the fact that in fiscal year 2008, we made funds available for Advanced Certification, and the resources proposed in the fiscal 2009 budget

request—how will you advance the process of answering the questions raised about the proposal to certify a Reliable Replacement Warhead without testing, considering the questions posed by many people, including the JASON Panel?

Mr. D'AGOSTINO. Okay. Thank you, Madam Chair.

In fact, just today, this morning, I do not know if it was coincidence or not, there is a requirement in the appropriations to provide a report within 60 days on our plans for Advanced Certification. I signed out that report this morning. It addresses a couple of key areas, and so we are going to focus on experiments in this particular funding line in order to deal with questions on common failure modes that could happen, whether they are for existing warheads or for potential future systems. I mean, the focus is to address the JASON's report on RRWs, so we are going to kind of start there first.

The second area has to do with our ability to do surety, take a look at physical features of surety and how they might impact certification. If you put a piece of surety technology into an existing warhead, how does that impact the certification piece? That was the second concern that JASON's had, and we have a plan to address that.

The third piece had to do with material changes. If we use a material that is a little bit different than what we had in the Cold War stockpile—and there are cases where we have to do that because, in many cases, we are talking about materials that were manufactured 40, 50 years ago. In many cases, the manufacturing processes just do not exist anymore. We are not allowed to use certain chemicals that we have used in the past—how do those things rack up and stack up on top of each other and impact assessment as a whole? So that is going to be a huge part of that study.

And the final area is peer review. Establishing not just peer review between lab to lab, which we currently have and I feel is quite good, but peer review that involves bringing in potentially another body, and potentially how we would kind of bring all of those peer review elements together to ensure that the stacking up of small changes on our existing Cold War stockpile or potential changes into a modern warhead and modern replacement warhead, and how those things impact.

Right now, 15 million dollars was appropriated in 2008. We have requested 20 million dollars, a little bit more, in 2009 because we think this is an area that is very important—to get to the bottom of the answers to those four particular questions that have come up. I feel good about that program. I think it is the right type of activity to do, and so we are marching down that path.

Thank you.

Ms. TAUSCHER. I am happy to recognize the Ranking Member, Mr. Everett, for his time.

Mr. EVERETT. Thank you, chairman.

And I thank all of you for your service.

To pick up on the chairman's comment about your comfort level for the 1,700 to 2,200 nuclear warheads, how would Prompt Global Strike figure into that, or would it, because we are talking conventional as opposed to nuclear?

General CHILTON. You know, we think back on the new Triad. The tip of that triad is where we paid attention to strike, and, as you know, sir, kinetic nuclear, kinetic conventional, and then non-kinetic strike opportunities are the three areas where we are focused on.

In the area of kinetic conventional, I think we have started to look at already how we can use some of the technologies that we have today to address some of the issues with regard to deterrents. I would say, for example, there are folks in the world today who I think are deterred in certain areas by the fact that we have the J-Series weapons that we have developed, and delivery platforms that just could show up overhead at some moment at the United States' choosing, and that in and of itself, even with the conventional capability, can be a deterrent in certain areas. Sometimes those are not adequate and, hence, we have nuclear weapons for a large number of target sets.

Prompt Global Strike, I put in kind of two categories. One, it can also provide some strategic deterrent capability in line with maybe relieving some of the target sets that we would normally cover with nuclear, but that is not its greatest strength, in my view. I think the greatest strength of a Prompt Global Conventional Strike weapon is its ability to control escalation in some scenarios, but also to provide an additional arrow in the quiver, if you will, of the country to address emerging threats, that we might find a nuclear weapon application to be self-deterring to address that threat.

And I will give you an example. Let us hypothesize there is a nation that were to field a robust anti-satellite capability, akin to the capability we saw demonstrated by the Chinese, and let us say that nation were to attack our satellites. With a robust capability, you could essentially deny a lot of the benefits, and most of the satellites that we rely on in low-earth orbit (LEO) in very short order. I am talking not a week. I am not talking days. I am talking hours.

And so when the phone rings on the STRATCOM Commander's desk on that scenario, because he is in charge of defending space, and the President says, "General Chilton, make them stop," today, I can offer him a nuclear option. A country has attacked our space assets, but no American has died in this scenario. I am not saying that that would not be the option chosen, but wouldn't it be also nice to have a Prompt Global Conventional Strike capability in the quiver to be able to offer that to the President to make them stop? And that is where I think this concept has its greatest strength.

Mr. EVERETT. It is obvious we cannot accept the Chinese continuing to dazzle with lasers our satellites. So, from a posture standpoint, when do we call on that Prompt Global Strike to help us? How do you make that decision? Do we let them continue to dazzle our satellites?

Secretary VICKERS. Well, are you talking about the decision to deploy a capability?

Mr. EVERETT. Yes.

Secretary VICKERS. We believe the requirement exists for that capability today for the reasons that General Chilton outlined, that it will enhance deterrents against some situations, and it will also provide future Presidents with an expanded array of options in some important scenarios besides the ASAT scenario that General

Chilton described. It could be terrorists with WMD, which is one of our gravest threats. It could be terrorists plotting other attacks in the homeland, and the only way to strike that might be with a rapid Prompt Global Strike weapon. It also may achieve deterrent effects against those who would be plotting by causing them to worry about such a capability.

So we believe we need that capability now. We are pursuing a wide range of technologies in the research and development (R&D) program that we have been authorized to do, and we welcome Congress's support to move forward on this as soon as appropriate.

Mr. EVERETT. General Keller said this morning that in regards to protecting our assets in space, that if we lose these assets that as far as the military was concerned that that would be a reverse time machine. We are told that we have redundancy. As I said in my opening statement, when you pull that string, though, we do not see much there.

And perhaps that is the reason, Madam Chairman, that we might have a classified briefing later on.

But we currently spend less than four percent of the entire defense space budget on SSA and space protection. Is that enough?

General CHILTON. Congressman, I share your concern. I have been a champion of SSA and improving investment of SSA for several years now, and it was one of the things I tried to emphasize as the Commander of Air Force Space Command, and now that they are supporting me, I continue to encourage that investment. And I am happy that we have gone from now investments in those programs to increased investments by a substantial amount. So I think we are headed on the right path here.

But I think you bring up a broader point that is—because Space Situational Awareness is one element of what we need for space protection. The broader point that you bring up, I think, is right on the mark with regard to our dependence on these capabilities and the way we conduct military operations, and are we adequately exercising and preparing for the case where someone might counter those dependencies or try to deny us those dependencies.

And we have a way to go in that area, I believe, particularly in the way we exercise, the way we are able to exercise, and the way we plan in the regions for our various war plans, to make sure that we do have the alternative paths to provide us with the capabilities that we will need to ultimately be victorious in whatever the scenario.

But what I always caution here is that although we need a robust space element here, and we need to look at protection as well, we also need to make sure we are not putting all our eggs in one basket because we know we cannot have ever the perfect defenses. And so we need to consider in the case of communications, for example, robust terrestrial communications, robust space communications, and air-to-air communications that can back that up and integrate that, and we have work to do there.

Mr. EVERETT. Well, how do you look at the fact that we have pretty much devastated the Transformational Satellite System (TSAT)? In the outyears, we are cutting four billion dollars from TSAT. What is that going to do to STRATCOM——

General CHILTON. Two things.

Mr. EVERETT [continuing]. Or our Future Combat Systems (FCS) which cannot go forward without TSAT.

General CHILTON. I have two concerns with regard to the way ahead in global satellite communications.

One, as the STRATCOM Commander, for my needs as the Commander of STRATCOM, I need uninterrupted, which means I cannot stand a gap in a capability for being able to do nuclear command and control, which means I need a secure survivable command and control system. I depend on today the Milstar satellite, in the near future the Advanaced Extremly High Frequency (AEHF) satellite, and TSAT would be the next part of that, and I am concerned that out in the 2018 and 2020 time period that we do not develop a gap there in this constellation. Now that is my parochial concern.

From a broader concern, which I am chartered to advocate for for all the regional combatant commanders and services, you are right on with your remarks with regard to how TSAT is a critical element of the Army's Future Combat System. When we look at the growth in ISR that is programmed in and our needs and dependencies and the warfighter demands and the investments we are making in Global Hawks and other platforms, not to mention the need for a space radar system, and you look at how you are going to get that data moved around the planet and available to the warfighter on the edge of the battlefield, we need to increase bandwidth in that space-based capability.

It is not just space. We need to look at terrestrial, but, again, I caution putting all our eggs in one basket. We learned what a very inexpensive anchor can do to terrestrial communications, and so I think we need to continue to move forward, increase the bandwidth that we provide to the warfighter, both in the terrestrial air-breathing and space element.

Mr. EVERETT. Thank you for that.

Am I correct in saying on the new AEHF that the terminals are not synchronized with it, or do you know——

General CHILTON. Let me take that for the record, and I will go back and check, but my understanding was that that was resynchronized, that they are, in fact, synchronized, but let me make sure I have that exactly right.

Mr. EVERETT. Okay. Finally, I have some questions for the record concerning Prompt Global Strike that I would appreciate a prompt—hopefully—response to.

General CHILTON. Absolutely. Happy to do that.

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

Mr. EVERETT. Thank you, chairman.

Ms. TAUSCHER. Thank you, Mr. Everett.

The gentleman from Washington, Mr. Larsen.

Mr. LARSEN. Thank you, Madam Chair.

Secretary Vickers, in your testimony, you note on page 11 that, "DOD further implements our national space policy by supporting efforts to promote safe and responsible use of space. We seek mutually beneficial international cooperation on space activities, and support commercial and foreign space surveillance needs to ensure safe space operations," and you go on to say—and this is where my

question comes—"DOD seeks to promote compliance with existing legal regimes, acceptance of international debris mitigation guidelines, and development of additional voluntary guidelines for safe and responsible space operations."

The first two seem to be fairly clear. Perhaps you can speak to that. But in particular, can you help us understand specifically what you mean by "additional voluntary guidelines for safe and responsible space operations," and do you think it would be useful to establish international rules of the road for space operations?

Secretary VICKERS. Well, I believe we have pretty substantial rules of the road now in terms of some legal obligations, some shared understandings, but as space becomes a more cluttered environment, then the need for new measures, you know, as we found—as we went through the Cold War, for example, to take an analogy—where we developed procedures for naval peacetime interaction that was instrumental in providing some stability during the Cold War. That would be analogous to space.

Specifically, what those might be, I think, will depend on as the situation evolves, but, you know, we took our obligations—General Chilton can speak to this much more expertly than I can—in terms of the recent shoot down very seriously depending on how things evolved that we knew we were legally obligated to do.

Mr. LARSEN. Sure. Well, I appreciate that. Your testimony does say DOD seeks to promote and so on. The way it is written, it would seem to me it says DOD also seeks to promote the development of additional voluntary guidelines. My curiosity is——

Secretary VICKERS. I——

Mr. LARSEN. Is that what DOD is doing, or are you tossing it out there for our consideration or——

Secretary VICKERS. No, I think it is——

Mr. LARSEN. How should I read that?

Secretary VICKERS. Right. I think it is a general goal, at this point, to ensure as space becomes a more complex environment that where we should have additional measures for safe operations that we pursue those commensurate with the rest of our national space policy which is to ensure freedom of action.

Mr. LARSEN. And that is my next set of questions, and perhaps General Chilton can start with the answers. It is on page 10 of Secretary Vickers' testimony, but I presume this is applicable to anybody sitting before me. "The U.S. rejects claims of sovereignty by any nation over space; rejects limitations on the fundamental right to operate in or acquire data from space; and retains the right of free passage through and operations in space without interference," the national space policy.

Let us, for the sake of this argument right now, assume China does not cause us any problems. Let us remove that from the table because I have heard enough China scenarios. Let us assume it is Russia, and Europe, and Japan with its commercial program, and so on. What do their national space policies say, and are they consistent with ours, and what do we do to sand off the rough edges that we might have with other countries? For instance, if we retain the right of free passage through operations in space without interference, do the Europeans have a problem with that, or do they

have the same one? And what happens if we conflict, not militarily, of course, but in terms of operationally, you know, what happens?

General CHILTON. Sure.

Mr. LARSEN. How are we thinking about that? And you can understand why I want to get away from China.

General CHILTON. I think——

Mr. LARSEN. I want to have a rational conversation about it.

General CHILTON. Sure. I think I understand.

I am reminded of a story I heard once. I think it was in the State of Ohio when they had the first automobile accident, when automobiles were first invented, and at the time, there were only two automobiles in the entire State of Ohio, and they managed to run into each other. So, you know, probably shortly after that, somebody sat down and said, "Well, maybe when we pass, we will go to right," or, you know, "If you are coming head on, I will go right, you go right, and we will miss," you know, those rules, those kinds of things, or the concept in seafaring where nations demand the right of free passage on the ocean. Somehow we figured out, you know, you put the green light on the right side of your ship and the red light on the left and there are certain rules for passing from the rear, et cetera.

Now Keplerian dynamics in space takes care of a lot of that stuff for you automatically, but simple, open dialogue, I think, is what is most important. You know, we all do station keeping with our satellites up there, particular a geosynchronous orbit, and so some satellites move—and we are watching that—and starting to be on a path that is getting close to ours. So then we have to decide are we going to move or what is going to happen or we will watch it for a while, and so if we have open dialogue and understanding and communication, like, "Hey, I am getting ready to do station keeping on this, so that you will know, and here are my parameters, and here us where I am, and here is where I am going, do not worry." It relieves some of that.

Those are kind of the open dialogue kind of discussions I think we can have. We are not at the red light-green light phase in this domain yet, but I think—and I do not want to put words in the secretary's mouth, so I will let him respond as well. As we look to the future, what are those kind of dialogues and what discussions should we have?

Mr. LARSEN. That is exactly it. In your testimony, in previous testimonies last year, and from other folks, there is this concern about increasing use, and we have looked at it through Chairman Everett's leadership at the time, getting it started, talking about how we use space and trying to educate people on how we use space, why it is important that we are there and what we do to protect our assets up there.

But that can be said for many other countries, too. They want to protect their assets. We want to protect what we have. And there is a lot of space in space, obviously, but it still seems that with everybody wanting to use it perhaps at the same orbits, are we getting to a point where we need to have more thoughtful discussions than just having, you know, the open dialogue, more structured discussions, I guess.

General CHILTON. I am not sure yet, but, I mean, we are past the point of not having any dialogue. We certainly need to have that, and——

Mr. LARSEN. No, no, no. I understand.

General CHILTON. I think we have to be careful about thinking about making rules and restrictions that are unenforceable, too.

Mr. LARSEN. Sure.

General CHILTON. With regard to space debris, for example, I think that is a good one. So we came to a conclusion a few years ago that the way the United States and Russia mostly, at the time the Soviet Union, were launching things in orbit, we were not paying much attention to the fact that our upper stages after a few months in orbit sometimes exploded because the tanks overpressurized, you know, because we were not worried about it.

But, you know, then we started keeping track of the stuff up there and said, you know, "This is heading in the wrong direction. Ultimately, we are going to create so much debris up there," and so we kind of agreed as spacefaring nations that we were going to mutually try to reduce the amount of debris generated in just normal launch and orbit operations. Russia does that, and we do that to the best we can, and those are the kind of open dialogues that responsible spacefaring nations ought to have and encourage folks to adopt and do it.

But to say, "Okay. I am going to say you must design this into your rocket," you this other country, "to operate in space," that is an unenforceable rule, so better to have the dialogue and get reasonable response and behavior to include sharing information and sharing best practices and adopting those, I think, at this stage of where we are in space.

Mr. LARSEN. Did you have anything else to share?

Secretary VICKERS. No. I mean I would agree on the debris. The point is we do have a number of standing instruments already that we adhere to, and we are in discussions, you know, to try to further develop some. You know, on the other hand, it has to be consistent with the rest of our space policy where General Chilton, as combatant commander, has responsibility as a warfighter that we do not unduly restrict his, you know, options as well.

Mr. LARSEN. Thank you.

Ms. TAUSCHER. I would like to notify members we have been told that we may have votes, a series of two or three, between 3:00 and 3:15. So I want to go to Mr. Franks from Arizona, and then we would like to get to Mr. Thornberry, if we could. So, if you guys could restrict to five or six minutes, I would appreciate it. And then, hopefully, we will get a second round.

Mr. Franks from Arizona.

Mr. FRANKS. Well, thank you, Madam Chair.

And I thank all of you for being here. You know, you guys are the ones that keep watch for all of us, and I appreciate it very, very much.

And, General Chilton, I just want to say a special word of congratulations to you. It was a good day for America when you became the Commander of Strategic Command. I say that, I think, on behalf of the entire committee.

General CHILTON. Thank you, sir.

Mr. FRANKS. I had the privilege of meeting this morning with General Keller, and he emphasized not only the interdependency, but the critical importance of America being dominant, not only in air, but in space and in cyberspace, because of the way that they all work together, and in his 21st century white paper, General Mosley says essentially the same thing, and he expounded on that in the committee this morning.

And I just think that your successful test here sort of reflects all of that. When you knocked down this satellite, you proved that the Aegis is now a working system and that the connection between those three areas is vitally important. And I am wondering if you think, General Chilton, that it is time to move some of these missile defense assets out of the MDA research and development budget lines and into the procurement budget lines for services like the Air Force and others to begin to take over and to operate.

General CHILTON. Well, thank you, Congressman.

And thank you for the compliment, particularly over the activities last week. I would just add for the record, from my perspective, it was a tremendous joint effort and interagency effort, all of government. So many departments and agencies participated in that, not only in the execution, but in the preparations we were making for the contingency where we might be unsuccessful in destroying the tank, and offering U.S. assistance to the nations of the world, as Madam Chair said, because we were responsible and we took that responsibility seriously. So thank you for recognizing that.

You asked a great question with regard to the balance between R&D, procurement, and operation and maintenance (O&M) of systems, and I have thought about this a bit, and, of course, we work very closely with MDA. I am familiar with how they spend their budgets, and I know that the services are under a lot of stress today for not only ongoing operations, but in particular, in my parent service, the Air Force, for the urgent recapitalization needs they have, the Army for the needs that they will have in the future, not only building systems like FCS, but in reconstituting after this tough fight they have been in. So there is going to be this tension here on where best to take the money from.

I would just caution that we do not throw the baby out with the bathwater with regard to the Missile Defense Agency (MDA). I have been in the test business before in my career and a little bit in acquisition when I was at the National Aeronautics and Space Administration (NASA) for the Space Station Program. I am absolutely amazed how far and how fast we have come in the last five years in fielding a capability with the construct we have set up in the Missile Defense Agency, and so, as we look to the future and there will be challenges on finding the monies to field these systems and the inventories that we need, whether they be THAAD or Patriot Advanced Capability–3 (PAC–3) or Aegis or the new systems that are coming on board, like Airborne Laser (ABL), et cetera. There will be tensions there, but we have to be careful not to break something that is working pretty darn good at getting new capabilities out there.

It is a tough problem, Congressman. I wish I had an answer. You know, the easy one is more TOA, but I know the challenges that presents, as well to the country.

Mr. FRANKS. Well, listen, I want to, Madam Chair, give Mr. Thornberry a chance here.

So I just want you to know that I think this missile interception of the satellite showed that you have a missile defense asset to performing a space mission, and it really, in my mind, demonstrates that there is really more of a psychological or artificial line between national security, space, and missile defense, and it is important, I think, that the two be emphasized and work together. I know that that is against kind of the perspective of the service.

So, congratulations again. I would like to ask more questions, but I want to make sure Mr. Thornberry has time.

General CHILTON. Thank you, sir.

Ms. TAUSCHER. I appreciate that, Mr. Franks.

Mr. Thornberry of Texas.

Mr. THORNBERRY. Thank you, Madam Chair, and I appreciate my colleague from Arizona.

Although I think these people have been too easy on you all——

[Laughter.]

Mr. THORNBERRY. And let me play devil's advocate just a little bit. Both General Chilton and Secretary Vickers have a tremendous number of things in your area of responsibility (AOR). A lot of things I am very interested in.

There is a lot of intellectual energy going on right now about how the Nation faces the threat in cyberspace. Mr. Everett has been pushing, and there is, I think, a lot of intellectual energy in planning and thought into space for the future.

I do not see any of that intellectual energy on what nuclear deterrence means in the future. I do not hear anybody talking about, "Okay, the characteristics of a nuclear weapon that would effectively deter whoever, everybody, whoever in the 21st century would be this, and we cannot really test that. We can only do this, and here is the difference between the ideal weapon that would deter and what we can produce."

I do not see any of that, particularly in the Department of Defense, and some people would even argue that nuclear deterrence has atrophied to some extent in the Defense Department, and so Secretary D'Agostino—you know, his folks are just kind of left to keep on doing what they are doing.

Now, what am I missing?

General CHILTON. Well, I think your concerns are well founded. What you are missing, I would say, Congressman, recently, is the comments I made at the Strategic Weapons in the 21st Century Conference two or three weeks ago at the Reagan Building and a speech I gave at AFA last week where I stood up and addressed those things, those very concerns that you mentioned.

And here is kind of the crux of my message; nuclear deterrence will be every bit as important for the remainder of this century. My children and grandchildren will need a nuclear deterrent. I do not think that is in conflict at all with the desire to reduce nuclear weapons. It is just a reality.

I think in the Cold War, my parent service in particular, I would argue there was none better at knowing and understanding what it meant to provide strategic nuclear deterrents for this Nation. When the Cold War ended, we found ourselves as a Nation in a lot

of shooting wars, conventional shooting wars, and the Air Force will tell you they have been in a shooting war, they have had people in harm's way since 1991, with our part in Southern Watch and Northern Watch going throughout all the 1990's right on into our current conflicts.

For sure, since 2001, we have been focused on conventional warfare and unconventional warfare in this Nation, and I would say perhaps we have lost some focus on that area that you just described that I believe is so important for the future, as well. And I would put the focus in this regard: We must continually remind ourselves that in a world of strategic nuclear deterrence, readiness is a mission.

It is not bomb-found targets. It is being able to show the world that you are able to do that, and that takes trained people, it takes adequate delivery systems, and in the end, it takes a warhead that is designed for the 21st century, not for the 20th century, and what we have today in our inventory are warheads that are designed for the 20th century where the principle design requirement was, because of the size, the numbers we needed, and the limited number of delivery vehicles and the size of those delivery vehicles that we had, maximize the bang and minimize the volume.

And we were able to take risks in reliability because we had a robust test program and we had a robust manufacturing program, and we designed and planned to replace those weapons every 20 years. And we could take risks in safety and security and we could take risks in maintainability because safety and security were not as high on the list as getting the numbers up there in that Cold War, and maintainability was not as required if you planned to replace them every 20 years, and you had a robust production capability.

The world has changed. Tomorrow, we worry because of the terrorist threat more about safety and security. We have zero production capacity in this country. I would argue that for Mr. D'Agostino that being able to produce 8 to 10 a year as a production capability—I have been to that facility. It is a laboratory. It is not a production facility. And we no longer want to test.

So, in that environment, I would say our number one requirement for the modern warhead is reliability. Our numbers two and three are safety and security. And maintainability is on that list as well. That is what I need as a combatant commander, to provide strategic deterrents for this country, nuclear deterrents, in the coming century.

Secretary VICKERS. I think there is a lot of thinking going on on strategic deterrence. We are still working our way through it. I think it is fair to say the problem has gotten a lot more complicated in the sense we face a wider range of actors, including now non-state as well as state, that require more tailored deterrent concepts against a wider array of actions we are trying to deter and with a wider range of instruments, integrating that with Prompt Global Conventional Strike, non-kinetic attack, and particularly in the area of non-kinetic, that area of deterrence is really challenging, and we are putting a lot of effort into that.

In general, I think cutting across those areas, complicating the deterrence problem is the growing challenge of attribution which

cuts across a number of potential threats where our ability to positively attribute an attack is central to our ability to deter it or adequately respond. So we are working hard. I think it is fair to say that there are a number of these areas where we are not as far along as we were in the Cold War, but we are working on it.

Mr. THORNBERRY. It just seems clear to me—and I know to you all too—that if we do not take ourselves seriously, the bad guys are not going to take it seriously either when it comes to nuclear deterrence.

And I know we are out of time. We have to vote. Mr. D'Agostino, one of the things I would like to ask you to do for the record, since we have to go, is can you give us the potential disadvantages or concern of the Stockpile Stewardship Life Extension Program only approach without RRW? I would like those listed if you can send something up to us, you know, 1 through 5 or 10 or whatever it is. I think that helps us to make the balance.

And I yield back, Madam Chair.

[The information referred to can be found in the Appendix beginning on page 96.]

Ms. TAUSCHER. I think maybe we can just have a briefing on that. I think we would like to sit around the table and kick that around.

Mr. D'AGOSTINO. I would be glad to do that. Thank you.

Ms. TAUSCHER. General Chilton and Under Secretary D'Agostino and Assistant Secretary Vickers, we are faced with about 40 minutes of votes. We want to thank you. The committee wants to thank you very much for being here today. Your testimony was very comprehensive that you sent up to us. We obviously see you all the time. We are very happy to do this. We like to do it in public.

We want to recognize the people setting behind you and the people sitting around us. Obviously, all of your staffs have worked very, very hard. They serve the American people sometimes very quietly, certainly anonymously. We want to thank our subcommittee staff for their hard work, too.

And we thank you very much for appearing before us today, and we look forward to the continued relationship. We, obviously, have a long list of things we are going to do. Thank you very much.

Secretary VICKERS. Thank you.

General CHILTON. Thank you.

Mr. D'AGOSTINO. Thank you.

Ms. TAUSCHER. The hearing is adjourned.

[Whereupon, at 3:15 p.m., the subcommittee was adjourned.]

A P P E N D I X

FEBRUARY 27, 2008

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

FEBRUARY 27, 2008

STATEMENT OF

GENERAL KEVIN P. CHILTON

COMMANDER

UNITED STATES STRATEGIC COMMAND

BEFORE THE STRATEGIC FORCES SUBCOMMITTEE

HOUSE ARMED SERVICES COMMITTEE

ON UNITED STATES STRATEGIC COMMAND

27 FEBRUARY 2008

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STRATEGIC FORCES SUBCOMMITTEE

INTRODUCTION

Madam Chairwoman Tauscher, Ranking Representative Everett, and Members of the Subcommittee:

Thank you for the invitation to be here today. This is my first opportunity to appear before you as Commander of United States Strategic Command. I look forward to further strengthening our relationships in pursuit of our common enduring goal of protecting this great Nation. The men and women of United States Strategic Command (USSTRATCOM) are committed to achieving this goal as well. They have performed superbly over the last year, demonstrating dedication across the breadth of our assigned missions both at home and abroad.

Under the superb leadership of my predecessor, USSTRATCOM underwent remarkable change in a very short period of time to stand up new organizations to address a broad range of mission assignments. USSTRATCOM is now in the process of maturing these organizations with an increased focus on day-to-day operations and integration. I am here today to provide my thoughts on the challenges we face, and to ask for your assistance to ensure USSTRATCOM possesses the means to accomplish our missions.

NATIONAL SECURITY CHALLENGES

Many of our National security structures, processes, and capabilities were developed during the Cold War, shaped by DoD's focus on a singular, symmetric threat. The dangers of the past have evolved and are complicated by new sources of conflict and challenges to stability. These new and evolving challenges defy the primarily force-on-force solutions of yesterday; requiring more complex, and in some cases, elegant solutions tuned to each adversary and circumstance.

Our Nation faces four persistent and emerging global challenges. First are the challenges posed by established nation-states, some resurgent, others emerging, who seek to undermine or subvert US policy objectives.

Second, we note the continued rise of non-state actors, predominantly in the form of global terrorists rooted in extremist and violent ideologies. These new adversaries are distributed, networked, and fleeting. Enabled by information technology and financial support, they are able to maintain a global presence by recruiting, training, inciting, and directing attacks in a variety of ways, including through cyberspace.

Third, we continue to face the potential catastrophic use of weapons of mass destruction (WMD). We believe the most dangerous threat to the US today is that of non-state terrorist groups acquiring and subsequently using weapons of mass destruction against the US.

Finally, we see both state and non-state actors attempting to supplant our advantage in various operational domains. The "global commons" of space and cyberspace are vitally important to our way of life. Our civil, military, and commercial activities are dependent upon access to cyberspace and space-based capabilities, and we can expect future adversaries to attack these dependencies. Our dependence on these capabilities and their associated vulnerabilities requires us to focus our efforts to ensure US freedom of action in these domains.

ASSESSMENT OF THE COMMAND

Following my confirmation, I conducted a review of USSTRATCOM's roles, missions, capabilities, and priorities. I discovered a command working arduously to execute a diverse set of global missions, each vital to the security of our Nation. On advice from Members of Congress, I toured our National Laboratories to better understand our nuclear stockpile. I also met with a number of Members of Congress and their staffs to determine how we might work together to resolve outstanding deficiencies in critical capabilities.

I believe USSTRATCOM's missions can be divided into two major categories. In the first category are global missions that require us to operate across

physical and/or functional boundaries. The three mission areas within this category are Strategic Deterrence Operations, Space Operations, and Cyberspace Operations. We have forces assigned to USSTRATCOM in each of these mission areas that execute operations every day. All of these missions are global in nature and are insensitive to lines drawn on a map.

The second category is comprised of those global missions where our purpose is not to operate across boundaries, but rather to knit together seams between boundaries. Today, USSTRATCOM is not assigned operational control of any forces within this category of missions. However, we have dedicated teams addressing the challenges of fielding and advocating for an integrated Missile Defense system; integrating Department of Defense (DoD) planning and advocacy efforts to better combat the threats posed by Weapons of Mass Destruction (WMD); managing the allocation of DoD's high demand/low density Intelligence, Surveillance, and Reconnaissance (ISR) assets; and integrating Information Operations (IO) in support of all combatant commands. As our missions develop, we are placing emphasis on readiness, detailed planning, command and control, and execution; supported by robust, realistic, and periodic command-wide exercise programs.

STRATEGIC DETERRENCE

During the Cold War, the US model for deterrence was based upon a robust capability to employ nuclear weapons via aircraft, intercontinental ballistic missiles (ICBMs), and submarine launched ballistic missiles (SLBMs). Known classically as "nuclear deterrence", this original Triad was designed to deter the Soviet Union. When combined with razor-sharp readiness and a bilateral dialogue that stressed both a mutual understanding of one another's capabilities and decision-making processes, the Triad underpinned the US deterrence posture that successfully kept the peace for over fifty years.

Although the strategic landscape has dramatically shifted since the end of the Cold War, the concept of deterrence and the need to deter adversaries

from attacking our vital interests is just as important in the 21st Century as it was in the last century. However, today's more complex strategic landscape demands excellence and nuance across a much broader set of national security challenges. To address these challenges, our model for deterrence has evolved. Today, strategic deterrence is embodied by a new Triad borne of the 2001 Nuclear Posture Review. The Triad now emphasizes the integration of offensive capabilities, both nuclear and conventional; defensive capabilities; and a responsive defense infrastructure, all enabled by intelligence, planning, and global Command and Control (C2). These efforts are ably led by our Joint Functional Component Command for Global Strike and Integration (JFCC-GSI).

The nuclear capability of the original Triad remains a vital part of our deterrence strategy. In light of this, USSTRATCOM is re-examining our oversight role of the Nation's strategic nuclear forces. We reviewed the US Air Force report of the Minot weapons transfer incident, as well as other independent investigative reports, and have implemented organizational and oversight changes to refocus USSTRATCOM on our nuclear mission responsibilities. We also intend to increase the oversight of Operational Readiness and Nuclear Surety Inspections of our assigned or gained units.

While our nuclear capability remains vital, our ability to integrate conventional long-range precision weapons is every bit as important. Although our conventional forces are second to none, we no longer have these forces forward-deployed permanently throughout the world. Therefore, it is prudent to have the ability to defeat attacks and eliminate high value targets at global ranges on short notice. We have a prompt global strike delivery capability on alert today, but it is configured only with nuclear weapons, which limits the options available to the President and may in some cases reduce the credibility of our deterrence.

The capability we lack is the means to deliver prompt, precise, conventional kinetic effects at inter-continental ranges. The ability to hold at risk sites in otherwise denied territory is a key element of our strategic deterrent capability. At present, the complex and evolving threat environment necessitates the rapid development and demonstration of a prompt conventional global strike capability. I appreciate past Congressional discussions concerning the need to fill our Prompt Global Strike (PGS) capability gap and wish to thank Congress for providing the Fiscal Year 2008 (FY08) resources as we continue to address this capability shortfall. The Air Force, Navy, and Army are coordinating with USSTRATCOM and the DoD Office of Acquisition, Technology and Logistics to conduct research, development, test, and evaluation of technologies which hold the greatest promise for new capability development. While we are making progress, we must place emphasis on a near-term solution to fill a gap that exists today.

RELIABILITY, SAFETY, AND SECURITY OF THE NUCLEAR STOCKPILE

The National Nuclear Security Administration (NNSA) and DoD share responsibility for the reliability, safety, security, and effectiveness of the Nation's stockpile of nuclear warheads, and for the quality and responsiveness of the enterprise necessary to sustain it. I want to assure the Committee that as a member of the Nuclear Weapons Council (NWC), I appreciate the concerns expressed by Congress with respect to both the status of our nuclear stockpile and the role nuclear weapons will play in our Nation's defense in the 21st Century. Congress has directed a number of activities in the coming year which will provide opportunities to further the national dialog on our strategic posture. We look forward to participating in this national discussion.

Our strategic nuclear forces have stood watch over the Nation for over fifty years, always prepared to conduct a mission we all hoped would never be necessary. Supported by weapons and infrastructure that were as modern as we

could make them, and military and civilian personnel that were ready 365 days a year, twenty-four hours a day, we succeeded in deterring our adversaries, assuring our allies, and preserving the peace.

Our Nation has invested heavily in increasing our scientific understanding and extending the life of nuclear weapons designed during the Cold War. To date, these efforts have successfully provided confidence in the reliability of our weapons without the need to conduct nuclear tests. Today the Stockpile Stewardship Program (SSP) is working - our nuclear stockpile remains reliable, safe and secure. Our assessment is based upon a solid foundation of past nuclear testing and augmented by cutting-edge scientific and engineering experiments and analysis, advanced computing and simulation, and extensive flight tests of warhead components and subsystems.

However, we are not confident that the SSP, or any conceivable weapon's life extension program will provide future USSTRATCOM Commanders the same level of confidence that I am pleased to express to you today. We recognize the current path of indefinitely relying on legacy nuclear weapons refurbished through a series of life extension programs entails accepting significant future risks to reliability, safety, security, and maintainability, as well as considerable expense.

Our legacy weapons were designed to maximize destructive capability while minimizing weight and volume, facilitating long range weapons delivery with great effect to deter a threat with a similar symmetric capability. Weapon performance margins, maintainability, and longevity, while important design criteria, were made a lower priority in the manufacture of these weapons to facilitate higher yield to weight ratios. These design trade-offs were acceptable at the time for several reasons. First, our nation maintained a robust nuclear weapons production infrastructure that was able to quickly fabricate large numbers of weapons. Second, we produced successive

generations of nuclear weapons every 15-20 years. Finally, we were able to routinely test our weapons.

As the threat to our nation has evolved, so have the requirements driving nuclear weapons design. Emergent states seek a nuclear weapons capability and non-state actors and terrorists seek to acquire nuclear weapons. Other declared nuclear powers continue to modernize their nuclear weapons, delivery platforms, and infrastructure. Conversely, the US has effectively eliminated its nuclear weapons production capacity and allowed its infrastructure to atrophy. We no longer produce successive generations of nuclear weapons and we have discontinued underground testing. Current US policy is to retain the fewest number of operationally deployed nuclear weapons required to meet national security objectives.

Over time, the environment degrades the functionality of both non-nuclear and nuclear weapons components, negatively impacting extremely tight performance margins that exist in our weapons today, thereby reducing weapon reliability. The highly optimized designs of our legacy weapons limit opportunities to improve safety and security standards through a warhead life extension strategy. A broad suite of modern safety and security features that were not available during the design and development of our legacy systems are available today and could be used to help prevent exploitation by terrorists, rogue nations or criminal organizations. Modern design technology will dramatically increase the maintainability of our stockpile which will serve to maximize long term reliability while minimizing long term costs. Finally, modern warhead designs offer a high potential for avoiding future nuclear testing.

In light of these changes in the strategic environment and the aging of our stockpile and its supporting infrastructure, we recommend pursuing an alternate weapon modernization strategy. This strategy should focus on improved weapon reliability, safety, security, and maintainability. These

are the priorities for 21st Century nuclear weapon design, not the 20th Century criteria of maximizing destructive capability and minimizing weight and volume.

If the nation is going to maintain a nuclear deterrent, the capabilities that support this deterrent should be second to none. We must care for the stockpile whether we possess one weapon or thousands. It is important to note that improvements to our aging infrastructure will be required whether or not we decide to pursue an improved warhead design. This cannot be accomplished without investment in requisite infrastructure and human capital. The last nuclear design engineer to participate in the development and testing of a new nuclear weapon is scheduled to retire in the next five years. The transition to a more modern stockpile will re-invigorate the design and engineering technology base - especially its human resources - and enable a more responsive and cost-effective infrastructure. A revitalized infrastructure will facilitate a reduction of the large inventory of weapons we maintain today as a hedge against strategic uncertainty and weapon reliability concerns, and will allow us to sustain our nuclear capability and expertise throughout the 21st Century.

Some contend that an effort to modernize our nuclear stockpile would lead to increased proliferation. We assert a modern stockpile designed to provide a reliable, safe, and secure nuclear umbrella will serve to dissuade and deter our adversaries, and assure our allies, reducing their perceived need for an indigenous nuclear program.

To facilitate an informed national debate of all of these issues, USSTRATCOM supports the continuation of the Reliable Replacement Warhead (RRW) Design Definition and Cost Study to explore a replacement for aging warheads in the stockpile. Completion of this study during Fiscal Year 2009 in parallel with the planned Nuclear Posture Review will provide Congress and the Administration the information needed to effectively evaluate alternative

strategies for the long-term maintenance of the Nation's nuclear weapons stockpile. The information from this study is critical to developing a comprehensive nuclear strategy that meets future National Security requirements.

NATIONAL COMMAND AND COORDINATION CAPABILITY (NCCC)

The strategic environment is fundamentally more complex than it was when our current point-to-point nuclear command and control (C2) system was developed more than fifty years ago. For example, the threat that some states will acquire and deploy ICBM technology, combined with our ability to counter these threats with missile defense systems, demands a C2 capability that rapidly and efficiently provides assured and responsive connectivity between national leaders. This scenario reduces our decision time to mere minutes and calls for a C2 capability that extends beyond legacy Cold War systems and capabilities. We have set a course to modernize our single-purpose and aging C2 system to allow for secure, enduring, and continuous communications under current scenarios as well as those emerging threats that we are likely to confront.

Our strategy is to sustain our legacy nuclear C2 system while expanding our capabilities to address a broader scope of military challenges. We are transforming the circuit-based, point-to-point communications systems that comprise our legacy nuclear command and control capability to a system that fully leverages new information technologies. Furthermore, we are focusing resources and efforts to implement a C2 architecture that provides global C2 capabilities, as well as systems that can be seamlessly integrated with the broader, national capabilities that support the President and senior leaders. We are working diligently to ensure our ability to provide end-to-end C2 under the most stressful scenarios envisioned.

Our concept of operations calls for the enduring and survivable ability to conduct operations from geographically dispersed locations through

collaborative access to data, services, and information. The evolution of our legacy nuclear command and control system will undergo careful evaluation and review to ensure no reduction in capability. It is imperative that as we assess and deploy our new systems and capabilities, they be subjected to rigorous testing to ensure interoperability with other on-going initiatives to enhance national and senior leader communications capabilities.

SPACE OPERATIONS

During the 20th Century, the nation approached space as a new frontier. Our focus was to win the exploration race and to understand and develop our capabilities in this ultimate high ground. Today, we depend upon space-based capabilities to conduct commerce, advance our interests, and defend our Nation. To this end, USSTRATCOM's Joint Functional Component Command for Space (JFCC-SPACE) conducts space operations on a daily basis.

Increasingly, space-based capabilities enable all other war-fighting domains. In the 21st Century, the mindset of space as purely an "enabler" must change. We must view our activities in the space domain in the same way we regard activities in the domains of land, sea, air, and cyberspace. As space-based capabilities provide critical support to forces in other domains, space operations must also receive support from forces outside the space domain.

The Chinese kinetic Anti-Satellite test (ASAT) conducted in early 2007 made it clear that space is not a sanctuary. We can expect similar challenges in the future. To ensure our freedom of action in space we need to maintain an acute awareness of the objects in space, and the terrestrial threats that could interrupt or deny our space operations. Our adversaries understand our dependence upon space-based capabilities, and we must be ready to detect, track, characterize, attribute, predict, and respond to any threat to our space infrastructure.

Space protection requires robust Space Situational Awareness (SSA). While sustaining our current space surveillance systems, we need to simultaneously improve our sensor coverage of the space domain with a mix of ground and space-based sensors, and improve the data transmission architecture and equipment necessary to fuse the data we collect into useable information. Additionally, we must continue to foster collaborative data-sharing with our allies to enhance global coverage. The analogy of a 1000 ship navy built through a coalition of nations can be applied to space, and the ability to leverage and expand space partnerships with our allies holds the potential to dramatically improve Space Situational Awareness.

Global satellite communication to include nuclear command and control, uninterrupted position, navigation, and timing, missile warning, intelligence collection, and environmental observation are essential space-based capabilities required by the war-fighter and the Nation. These existing space-based capabilities must remain viable while conducting research, development, and fielding of replacement capabilities. We must also ensure that the current space-based capabilities we provide to the Nation can be either adequately defended or delivered by alternate means in times of crisis. We ask for funding support to ensure there is no interruption in the provision of these capabilities to our war-fighters and our Nation.

Assured access to space will remain an imperative for the US. Today, the dominant threat to access does not come from an external threat, but from the need to properly sustain and modernize our launch ranges at Vandenberg and Cape Canaveral. We ask for continued attention to and appropriate investment in these mission assurance programs.

We must also continue to make investments in the human capital that will enable USSTRATCOM to face the challenges of tomorrow. These challenges require the development of a cadre of space professionals, in all Services, with the requisite skill, talent, training, and focus that will ensure our

ability to develop new or improved capabilities and operate and defend them in the future.

CYBERSPACE OPERATIONS

Like space, cyberspace is a unique global domain in which the US must maintain freedom of action. It serves as a world-wide neural network, a conduit that links human activity and facilitates the exchange of information at speeds measured in milliseconds. Potential adversaries recognize the US reliance on the use of cyberspace and constantly probe our networks seeking competitive advantage.

In this emerging war-fighting domain, USSTRATCOM, through the Joint Task Force for Global Network Operations (JTF-GNO) and the Joint Functional Component Command for Network Warfare (JFCC-NW), in partnership with the Joint Staff is leading the planning and execution of the National Military Strategy for Cyberspace Operations. In this role, we coordinate and execute operations to defend the Global Information Grid (GIG) and project power in support of national interests.

Over the last year, the Defense Department has sought to enhance the security of the GIG by improving personal identification and authentication measures, standardizing operational security procedures and software, and reducing access to non-mission essential web sites. While generally effective, these defensive measures require augmentation to defeat sophisticated adversaries. As the cyber attack on Estonia demonstrated, the Defense Department must also plan and train to operate the GIG while under attack. USSTRATCOM is actively planning and executing operations to detect and counter attacks on the GIG while coordinating responses with other DoD and interagency elements.

For as much as USSTRATCOM has accomplished in this domain, cyberspace operations is the least mature of USSTRATCOM's operational mission areas. Our challenge is to define, shape, develop, deliver, and sustain a cyber

force second to none. We pledge to continue to work with Congress as we continue to develop future resource and manpower requirements. As we continue to define the necessary capabilities to operate, defend, exploit, and attack in cyberspace, we ask for increased emphasis on DoD cyber capabilities. Our most immediate challenge is adequately trained personnel. USSTRATCOM needs a dedicated and highly trained force provided by the Services to conduct network warfare. As we continue to develop our cyberspace capabilities, we look forward to the day when we have trained and equipped Service organizations (e.g. brigades, battalions, wings, groups, and squadrons) assigned to USSTRATCOM to conduct network warfare.

INFORMATION OPERATIONS

The Joint Information Operations Warfare Command (JIOWC) remains the center of excellence for DoD Information Operations (IO). Through JIOWC, USSTRATCOM has refocused our IO efforts to reinforce and support our three global missions of strategic deterrence and space and cyberspace operations. Specifically, we shifted from regionally focused efforts centered on individual combatant commands to concentrate on integrating Strategic Communication planning, Operations Security (OPSEC), Military Deception (MILDEC), and Electronic Warfare (EW) capabilities to enable USSTRATCOM's global mission sets. Additionally, USSTRATCOM recognizes that controlling the use of the electromagnetic spectrum and ensuring its constant availability to friendly forces is not only of fundamental importance to all three of our operational missions, but to every other combatant command. To that end, we have undertaken a DoD-wide effort to identify joint EW effects requirements, highlighting Service-level EW capabilities and gaps in order to provide joint solutions for ensuring global electromagnetic spectrum access.

MISSILE DEFENSE

Missile technology continues to proliferate, thereby increasing the need for a credible missile defense capability as an essential element of

America's National Security Strategy. Missile defense systems raise our adversaries' ballistic missile development costs by reducing their systems' effectiveness. In addition, our missile defenses enhance deterrence by denying adversaries the benefits they might seek by threatening the US or our forces and allies with a missile attack.

Our missile defense systems must be ready to defend against a missile that launches and lands in the same combatant commander's region; a missile that launches from one region and lands in an adjacent region; or is launched from one region, overflies an adjacent region and lands in a third region. It is our responsibility to ensure concepts of operations, the design and integration of sensor suites, missile warning systems, and the mechanics of battle management systems all address these scenarios.

As we move forward in the next year, USSTRATCOM, through our Joint Functional Component Command for Integrated Missile Defense (JFCC-IMD) is leading a collaborative effort with geographic combatant commanders to develop a global integrated missile defense concept of operations that will lay the groundwork for our future Ballistic Missile Defense System (BMDS) Command and Control architecture. We are also examining the merits of incorporating cruise missile defense capabilities into the BMDS Command and Control architecture to address this growing threat in a cost-effective manner. We continue to support DoD and Department of State (DoS) efforts to deploy the BMD mid-course radar and Ground-Based Interceptor (GBI) capabilities in Europe, which are an integral part of the transition from limited defensive operations against a North Korean ICBM attack to an architecture capable of defending the US and Europe from missile attacks originating from Southwest Asia as well.

The Missile Defense Agency (MDA) had an excellent year. In 2007, MDA conducted five successful AEGIS Standard Missile flight tests (one in conjunction with the Japanese Maritime Self-Defense Force) and four Terminal

High Altitude Area Defense (THAAD) flight tests. Additionally, they conducted one Near-Field Infrared Experiment (NFIRE) test on-orbit, and one Network-Centric Airborne Defense Element (NCADE) air-to-air test. In September 2007 a successful ground-based midcourse interceptor test was conducted using operational crews. In July 2007, the early warning radar at Fylingdales Royal Air Force base completed a major hardware and software upgrade to improve detection, object classification, and precision tracking of ballistic missiles launched against the US. This site, along with the site at Beale AFB is now equipped with the Upgraded Early Warning Radar (UEWR), making both sites critical components of the BMDS. These modernizations contribute significantly to the accuracy, and hence effectiveness, of missile defense tracking information and provide a single configuration that will enhance the sustainability of these radars.

The BMDS was exercised extensively throughout 2007. Between April and August, operational war-fighters exercised missile defense operations in six joint and combined combatant command level exercises. These efforts dramatically increased the level of operational war-fighter involvement in the development and fielding of the BMDS.

In the coming year, multiple BMDS exercises and tests, complemented by the development of the global integrated missile defense concept of operations will serve to validate our ability to ensure the efficient, coordinated, and prioritized use of limited missile defense resources. In support of the development of critical capabilities, USSTRATCOM has also continued to perform its advocacy responsibility for the global missile defense mission area, in full collaboration with the Missile Defense Agency (MDA) and the combatant commanders.

As our missile defense system continues to mature, it will continue to influence our adversaries' perception of the economic and political cost they must incur to pursue missile technologies. While missile defense as a

defensive shield is important, its ability to assure allies, dissuade competition, and deter adversaries is equally vital. To achieve these goals, we need your continued support.

I would like to emphasize that the recent successful operation to intercept the decaying satellite was not a test of our missile defense system. Some components of the system underwent a one time modification to facilitate accomplishment of this mission. However, these components are being returned to their original configurations to continue defending against the ballistic missile threat.

COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)

For more than half a century we lived in a world in which a few major powers possessed nuclear, chemical, and/or biological weapons. The US has led efforts to encourage nuclear-capable nations to secure their materials and technology, as well as encourage those nations retaining chemical and biological weapons to disavow them as the major powers did long ago. While we have had some successes, such as Libya, and more recently, progress with North Korea, a number of nations continue to possess or seek weapons of mass destruction. Additionally, some nations with WMD capability are experiencing political unrest, thus placing their weapons at risk of capture by those hostile to the United States and our allies.

Presidential direction, the National Strategy to Combat Weapons of Mass Destruction, and the recently publicized Inspector General report on DoD Initiatives for CWMD made it clear the US requires an integrated approach to deterring our adversaries and protecting our Nation from those who would employ WMD against us.

While every regional combatant command is assigned the mission to counter weapons of mass destruction in its geographic area of responsibility, it is USSTRATCOM's responsibility to integrate the family of DoD CWMD plans and to advocate within DoD for desired CWMD capabilities from a global perspective.

We do this through the USSTRATCOM Center for Combating Weapons of Mass Destruction (SCC). Last year the Department's concept plan to integrate and synchronize CWMD operations and activities was approved by the Secretary of Defense (SECDEF). This plan provides the blueprint to coordinate world-wide CWMD operations by supplying an effects-based template for regional combatant commanders to use in tailoring their regional CWMD plans, operations, and activities. USSTRATCOM has enhanced DoD's operational capability suite by initiating the standup of a Joint Elimination Coordination Element (JECE) to conduct operational level WMD-Elimination planning (including deliberate, crisis action, and adaptive planning), joint training, command and control, and elimination operations exercises in support of joint force commander requirements. The JECE focuses on the activities and operations necessary to train and prepare joint forces and command and control elements to conduct WMD-Elimination missions. Recently deployed in support of US Pacific Command's major force exercise, Ulchi Focus Lens, the JECE performed admirably, supporting the formation of the first Joint Task Force Headquarters for the elimination of WMD.

In our advocacy role, leveraging the Defense Threat Reduction Agency's (DTRA) WMD expertise, SCC completed the CWMD Joint Integrating Concept (JIC) outlining the future integrated architectures and capabilities (2015-2027) for the CWMD mission. We have used this visionary document as the foundation for development of the first CWMD Joint Capabilities Integration and Development System (JCIDS) requirements document which provides a holistic prioritization of current combatant command capability needs.

Over the past year, Congress supported our top two capability needs; technologies for detecting shielded nuclear materials at standoff distances, and a joint effort with United States Special Operations Command to develop a CWMD intelligence predictive assessment capability. USSTRATCOM continues to support DTRA through the integration of interagency activities with the

Departments of Energy, State, Homeland Security and the Defense Advanced Research Projects Agency (DARPA) to accelerate research and development efforts for critical standoff detection capabilities. Timely response to nuclear and radiological events through enhanced sample collection, packaging, transport, and precise data analysis is required to establish attribution, thus contributing to deterrence.

We ask for your continued support in helping us build on the successes realized through Proliferation Security Initiative (PSI) programs and the Nunn-Lugar Cooperative Threat Reduction (CTR) initiative, the DTRA CWMD mission portfolio, and the Chemical/Biological Defense Program. These programs enhance the capacity and capability of partners and allies to better secure and govern their own countries. By building global partnerships, the US enhances the development of resident counter-proliferation capabilities. This strategy facilitates the interdiction and elimination of WMD by other nations, promotes regional stability, presents a consolidated front to the threat, and enhances US security by eliminating threats far from our shores.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR)

In 2007 USSTRATCOM and our Joint Functional Component Command for Intelligence, Surveillance, and Reconnaissance (JFCC-ISR) led ISR planning in support of the operational surge in Iraq. The planning, allocation, execution, and assessment of ISR missions have been vital to the improvement of the security situation in that region. We continue to improve our global ISR management processes. As the sophistication and volume of war-fighter ISR needs continue to grow, so does the need to employ DoD's limited ISR assets in close coordination with the rest of the nation's surveillance and reconnaissance capabilities, as well as those of our allies.

To that end, we have invested significant effort in strengthening DoD's internal and external organizational relationships to enable more efficient ISR operations. When we assessed strategies to achieve a more efficient ISR

enterprise, the need to integrate National and Defense ISR capabilities to satisfy the Nation's intelligence requirements became clear. In October of 2007, the DoD took a major step toward improving the Defense ISR Operations Enterprise by integrating the functions performed by JFCC-ISR and the Defense Joint Intelligence Operations Center (DJIOC) to form the Defense Intelligence Operations Coordination Center (DIOCC). The DIOCC serves as the primary focal point for interface with the recently established National Intelligence Coordination Center (NIC-C) and is part of a strategy to help ensure our limited surveillance and reconnaissance capabilities are aligned with the Nation's and the Department's strategic priorities. These changes reflect the direction, concurrence, and collaboration of the Secretary of Defense (SECDEF) and the Director of National Intelligence (DNI).

In addition to improving our organizational approach, we are reviewing USSTRATCOM's intelligence structure. When USSTRATCOM established joint functional component commands, some of its key intelligence functions were divested. We are reviewing our intelligence support requirements at the component and headquarters level to better posture intelligence support for each of USSTRATCOM's mission areas.

CONCLUSION

We live in a world where threats to our safety and security emerge and change daily. USSTRATCOM's missions and capabilities support our national objectives of protecting and defending the homeland, assuring our allies, dissuading undesirable competition, and deterring and when necessary, defeating our adversaries. The men and women of United States Strategic Command form a responsive war-fighting command with a global perspective that is in the fight today, and perhaps even more importantly, is uniquely positioned to anticipate, prepare for, and deter future crises.

I appreciate the opportunity to share my thoughts with you and I look forward to partnering with you in the future as we work together to ensure our Nation is secure. Thank you.

Statement of Thomas P. D'Agostino
Administrator, National Nuclear Security Administration
U.S. Department of Energy
Before the
House Committee on Armed Services
Subcommittee on Strategic Forces
February 27, 2008

Introduction
Madam Chairwoman, thank you for the opportunity to discuss U.S. nuclear weapon policies and programs. My remarks focus on our efforts to transform the nuclear weapons complex into a 21st century national security enterprise. I will address why we believe that the Reliable Replacement Warhead (RRW) concept should be pursued notwithstanding the recent decision by Congress not to fund completion of the RRW design definition and cost study.

Before I begin, I want to remind you of the tremendous progress made over the past few years in reducing the size of our nuclear weapons stockpile. As you recall, in 2002, President Bush and President Putin signed the Moscow Treaty, which will reduce the number of our operationally deployed strategic nuclear warheads to 1,700 to 2,200 by 2012. In 2004, the President issued a directive to cut the entire U.S. nuclear stockpile—both deployed and reserve warheads—in half by 2012. But this goal was later accelerated and achieved 5 years ahead of schedule in 2007. As of the end of 2007, the total stockpile was almost 50 percent below what it was in 2001, when the President took office.

On December 18, 2007, the White House announced the President's decision to reduce the nuclear weapons stockpile by another fifteen percent by 2012. This means the U.S. nuclear stockpile will be less than one-quarter its size at the end of the Cold War—the smallest stockpile in more than 50 years.

My Department of Defense colleagues are prepared to address fundamental questions of why in the post-Cold War era we continue to need nuclear forces and why, although dramatically reduced, we need the number of nuclear warheads in the stockpile that we plan to have. My testimony will focus more narrowly on our efforts to "transform" the U.S. nuclear weapons stockpile and supporting infrastructure. In this regard, further stockpile reductions rest on (1) our ability to transform the nuclear weapons complex into a more responsive enterprise, (2) ongoing efforts to understand challenges to the stockpile and modern means of addressing these challenges such as the Reliable Replacement Warhead, and (3) efforts between successive Administrations and Congress to restore a consensus on the future nuclear deterrent, force posture and resulting nuclear weapons stockpile.

Transforming the Nuclear Weapons Complex
The Nuclear Weapons Complex is at a crossroads—maintaining the status quo is not an option we can afford. Delay and inaction will only increase the costs and elevate the risks associated with maintaining an aging stockpile. Regardless of stockpile transformation plans, these facilities need to be upgraded. The challenge for us will be to move from an aging nuclear weapons complex designed for the Cold War to a smaller 21st century national security enterprise

that is integrated, modern, cost-effective, and that eliminates unnecessary redundancy, but that is also at the forefront of science and technology and responsive to future national security requirements.

Complex transformation is more than simply replacing an aged physical infrastructure, it includes transforming our contracting, procurement and management practices to embrace the best in business and human capital practices. We also seek to leverage our core competencies in nuclear weapons design and engineering to advance our leadership in counterterrorism, nonproliferation, physical security, cyber security and support of the intelligence community. Our transformation strategy relies on four pillars:

- Transform the nuclear stockpile through the Stockpile Stewardship Program in partnership with the Department of Defense.
- Transform to a modernized, cost-effective nuclear weapons complex to support needed capabilities in our physical infrastructure.
- Create an integrated, interdependent enterprise that employs best business practices to maximize efficiency and minimize costs.
- Advance the science and technology base that is the cornerstone of our nuclear deterrence and essential to our national security.

Infrastructure improvements are a major part of complex transformation and we have made important progress in this area. For example, with the support of this Committee, in 2007, we produced tritium for the first time in 18 years, and the Tritium Extraction Facility (TEF) at Savannah River is now on-line. Still, some major facilities date to the Manhattan Project and cannot easily meet today's safety and security requirements, and the capabilities they provide must be restored. Let me cite two key examples:

Plutonium "Pit" Production: A sufficient capacity to produce plutonium pits for nuclear warheads is an essential part of a responsive national security enterprise and is required for as long as we retain a nuclear deterrent. Currently, we have a very small production capacity at Los Alamos National Laboratory (about ten pits per year in Technical Area 55 (TA-55). This capacity took ten years to reconstitute, using aging scientific and manufacturing facilities. It is insufficient to support the stockpile for the long term and, if not redressed, requires maintaining a larger stockpile than would otherwise be desired. There are two key reasons why this is so:

- Depending on warhead type, our best estimate of minimum pit lifetime is 85-100 years. While this lifespan exceeds previous estimates, degradation from plutonium aging still introduces uncertainty in overall system performance, particularly for lower margin systems. As the stockpile ages, we must plan to replace many pits in stockpiled weapons.
- As the stockpile continues to be reduced, we must anticipate that an adverse change in the geopolitical threat environment, or a technical problem or development, could require manufacture of additional warheads on a relatively rapid schedule. Currently, if we

found a major system-wide problem in the stockpile requiring pit replacement, we have insufficient capacity for a timely response.

As part of our transformation, NNSA has evaluated a variety of future pit production alternatives. NNSA's preferred alternative is to retain and build on the existing production facilities at Los Alamos. Whether we continue on our existing path or if we move towards an RRW based stockpile, we will need a capacity to produce about 50-80 pits per year. To do this, we would use existing facilities in TA-55 with the addition of a new Chemistry and Metallurgy Research-Replacement (CMRR) Nuclear Facility. In addition to its role in pit production, the CMRR will be the sole facility where we will be able to carry out pit surveillance, essential to maintaining the existing stockpile, as well as plutonium and actinide research and analysis. Our approach would provide sufficient production capacity to support smaller stockpile sizes, particularly when coupled with potential reuse of pits. A production capacity of 50-80 pits per year is less than one-tenth of Cold War levels, when we were producing not ten or a hundred, but thousands of warheads a year.

Uranium Component Production: As with plutonium, regardless of the type of stockpile we maintain, we will require a responsive capability and capacity to produce uranium components. Our uranium component production facilities date to the Manhattan Project. Securing these facilities from terrorism threats we face after 9-11 is increasingly difficult and costly, as is operating them to modern safety standards. Every warhead, whether refurbished or replacement, will require uranium component manufacture. Construction of the Highly Enriched Uranium Materials Facility at the Y-12 National Security Complex in Oak Ridge will allow us to consolidate uranium storage with a significantly reduced security "footprint."

Although our emphasis has been on maintaining the stockpile by embarking on complex transformation and examining the potential promise of RRW, we have not lost focus on meeting our commitments to the Defense Department and to other customers. As I pointed out earlier, last year we reconstituted a limited plutonium pit manufacturing capability and produced new pits for the W88 warhead. This year we will continue to produce new W88 pits and begin installing equipment to increase pit production capacity to 30-50 pits per year by 2012-14. In 2006 and 2007, respectively, we delivered the first refurbished B61-7 and B61-11 bombs to the Air Force. We intend to maintain on-time delivery of these weapons to the Air Force in 2008.

In addition, our 21st century national security enterprise will continue to leverage the scientific underpinnings of its historic nuclear weapons mission to respond to a full range of national security challenges beyond nuclear weapons. Indeed, the scientific capabilities and infrastructure developed for nuclear weapons are already being utilized by the Departments of Defense and Homeland Security, and by the intelligence community, and are recognized as essential to fulfilling the responsibilities of these organizations. For example, the NNSA laboratories have participated jointly with other government agencies in addressing a wide range of national security challenges—all of which leverage NNSA's core mission of nuclear weapons development and sustainability. Recent examples include:

- Supporting warfighter needs in Iraq with modeling, analysis and systems to counter

improvised explosive devices (IEDs).

- Supporting the DoD and FBI in emergency render-safe and post-event technical nuclear forensics.
- Aiding the intelligence community in its counterterrorism and nonproliferation efforts by drawing upon our nuclear weapons expertise.
- Developing and deploying integrated systems for countering biological releases and bio-decontamination technologies.
- Developing and deploying portal detector technology to prevent smuggling of special nuclear materials.

Our challenge is to maintain these scientific and technical capabilities, which evolved from the weapons program when budgets were expansive, into the future when resources will be relatively constrained. We must find ways to leverage key capabilities by developing and strengthening strategic relationships with other federal agencies in meeting our nation's security needs.

Our plan for transforming our physical infrastructure, released this past December and detailed in the draft Supplemental Programmatic Environmental Impact Statement (SPEIS) as required by the National Environmental Policy Act (NEPA), will consolidate special nuclear materials to fewer sites and locations within the nuclear weapons complex, close or transfer hundreds of buildings that are no longer required for the NNSA mission, and reduce NNSA's overall footprint by as much as a third. Over ten years, we expect to eliminate at least 9 million square feet, or the equivalent of almost 200 football fields of floor space! Additionally, by eliminating multi-site redundancies and consolidating both mission and capability at our sites, we expect to dramatically improve efficiency and cut costs.

Evolution of Our Strategy for Sustaining the Nuclear Stockpile

Let us turn to the problem of stockpile stewardship and recall how we got to where we are today. In the years following the end of the Cold War, budgets for nuclear weapons programs were in "free fall"—funding was simply not available to sustain both R&D and production capabilities. A strategic decision was made to emphasize R&D to ensure future capabilities to certify the stockpile while neglecting production—we mortgaged the present to ensure the future.

That future was seen as *science-based stockpile stewardship and life extension* of our Cold War legacy warheads. When the U.S. stopped nuclear testing in 1992, it sought to replace this critical tool with a new Stockpile Stewardship Program (SSP) that: (1) emphasized science and technology coupled with a vigorous experimental program as a means to understand better the physics and chemistry of nuclear weapons and their operation, and (2) provided enhanced warhead surveillance tools so that we would have a much better chance of detecting the onset of problems in the stockpile.

The goal of the SSP was to predict the effects of aging in our warheads so that we could replace aging components before they degraded overall system reliability. The end of the Cold War

provided this opportunity—our focus was no longer on a continuous cycle of fielding new warheads to provide new military capabilities, but on sustaining existing nuclear capabilities.

We call this "life extension"—the process of observing the aging of individual components of warheads and replacing them before they fail. Consider this challenge. Your vintage 1965 Ford Mustang—maintained as a collector's item—has been sitting in your garage for 40 years. You monitor it for such items as a clogged carburetor, corrosion in the engine block, battery discharge, and you replace parts when you deem it necessary. But you don't get to start the engine and take it for a test drive. The trick is to assure that if you do need it right away—to take your wife (or husband) to the hospital in an emergency—that it would work with certainty. That's sort of what we have to do with nuclear weapons LEPs.

Following the Administration's Nuclear Posture Review, in 2003 we "took stock" of ten years of the SSP and came to some important conclusions.

First, *the Stockpile Stewardship Program is working*—today's stockpile remains safe and reliable and does not require nuclear testing. This assessment is based on a foundation of past nuclear tests augmented by cutting edge scientific and engineering experiments and analysis, and improved warhead surveillance. Most importantly, it derives from the professional (and independent) judgment of our laboratory directors advised by their weapon program staffs.

Second, as we continue to draw down the stockpile, our laboratory directors are concerned that our current path—successive refurbishments of existing warheads developed during the Cold War to stringent Cold War specifications—may pose unacceptable risks to maintaining high confidence in warhead performance over the *long-term* absent nuclear testing.

These concerns arise as we move further and further away from designs certified with underground nuclear tests, resulting from inevitable accumulations of small changes from a continuous process of aging, and refurbishment of aging components, over the extended lives of these highly-optimized systems.

So, while we are confident that the stockpile stewardship program is working and that today's stockpile is safe and reliable, it is only prudent to explore alternate means to manage risk in seeking to ensure stockpile reliability over the long term.

This is, in part, the impetus for our proposed work to study reliable replacement concepts: to ensure the long-term sustainment of the military capabilities provided by the existing stockpile, *not* to develop warheads for new or different military missions as is often portrayed.

Specifically, we have examined the feasibility of providing replacement warheads for the legacy stockpile. By relaxing Cold War design constraints that sought maximum yield in a minimum size/weight package, it would allow design of replacements that are easier and less costly to manufacture, are safer and more secure, eliminate most environmentally dangerous materials, and increase design performance margins, thus ensuring long-term confidence in reliability without nuclear testing.

Finally, we need to transform our complex with or without RRW. That said, we believe that RRW would offer means to transform to a more efficient and responsive, much smaller, and less costly nuclear weapons R&D and production infrastructure.

Urgency of RRW

We are often asked: If today's stockpile is safe and reliable, why do we believe it is important to start on RRW now? Why not wait a few years when you know more? There are four main reasons why I believe it is important to complete the reliable replacement study now.

First, the study will provide critical information to insure that the next administration, as well as the bipartisan commission established by this Committee, can complete a timely review of U.S. nuclear posture as mandated by Congress.

Second, as I raised earlier, there are concerns about our ability to ensure the long-term safety and reliability of today's stockpile absent nuclear testing. For example, the first RRW was intended to replace a portion of W76 warheads deployed on the Trident SLBM system. That warhead comprises a large fraction of today's, and an even larger fraction of our future strategic deterrent force. It has no "back up." Although we have not uncovered any problems with the W76, it is prudent to hedge against a catastrophic failure of that system by introducing a significantly different warhead design into the SLBM force. Our ability over the next 15 years to produce new plutonium parts is limited—the sooner we start the sooner we could achieve this diversity.

Third, after 9/11 we realized that the security threat to our nuclear warheads had fundamentally changed. The security features in today's stockpile are commensurate with technologies that were available during the Cold War and with the threats from that time. Major enhancements in security are not easily available via retrofits in the life extension programs. The car analogy is again relevant. Today's Mustang remains a high-performance automobile, has about the same dimensions and weighs only a few hundred pounds more than the first Mustangs, and has all the modern safety and security features we expect today—air bags, anti-lock brakes, GPS navigation, satellite radio, theft deterrent and alarm systems. The 1965 version had none of these features, not even seat belts! We deploy warheads today that have 1970-80's safety, security and anti-terrorism features. It does not mean that these warheads are not safe and secure, but we can do better and we should do better. Based on our initial assessments, I believe that RRW provides opportunities to incorporate the latest technological advances for precluding unauthorized use in a post-9/11 threat environment.

Fourth, the RRW effort thus far has provided a critical opportunity to ensure the transfer of nuclear design and engineering skills from the generation who honed these skills with nuclear testing to the generation who will replace them. These skills are absolutely vital to the nation, not just for sustaining our deterrent but in such areas as nuclear counterterrorism which will become even more important in the future. In a few years, nearly all of the older generation will be retired or dead. Without this opportunity coming at this time (and not five years hence), we would not be able to sustain key capabilities.

Response to Arguments Against RRW
A number of concerns have arisen in our deliberations with Congress and others about the RRW program. Specifically, critics argue that:

- RRW will undermine the non-proliferation regime either by providing incentives for states to acquire or improve their nuclear arsenals, or by impeding U.S. leadership in pursuing a strengthened non-proliferation regime.

- RRW will cause us to carry out an underground nuclear test.

- More broadly, the U.S. "doesn't have its nuclear act together"—its nuclear policies are not clearly embedded in a broader international security framework. At minimum, it hasn't communicated its nuclear policy clearly to Congress. Until it does, some would argue, we should delay RRW and Complex Transformation.

On that last point, the United States has a coherent and rationale policy overarching nuclear weapons programs as reflected in the 2001 Nuclear Posture Review (NPR), the Presidential directive (NSPD-28) addressing command and control and safety and security of U.S. nuclear forces, and the Nuclear Weapons Stockpile Plans issued annually by the President, among others. But we have not done as good job as we should communicating these policies to Congress and the public. We are, however, doing better and I will return to this at the end of my statement.

How is our proposed reliable replacement strategy consistent with non-proliferation and arms control? Some of you may be convinced that there might be valid reasons for going forward but are concerned that these reasons do not outweigh an overriding concern that such efforts could undermine U.S. leadership in the fight against proliferation. I appreciate such concerns, but ask that you consider the following points:

- The RRW, by design, would not provide a new role for nuclear weapons or new military capabilities, but rather would help sustain the military capabilities of the existing arsenal.

- Fielding the RRW would not increase the size of the nuclear stockpile, rather it would enable further stockpile reductions. Once a transformed production complex demonstrates that it can produce replacement warheads on a timescale responsive to technical problems in the stockpile, or adverse geopolitical changes, then many reserve warheads could be eliminated—further reducing the nuclear stockpile and reinforcing our commitment to Article VI of the Nonproliferation Treaty.

- Because replacement warheads would be designed with more favorable performance margins, and therefore less sensitive to incremental aging effects, introducing them into the stockpile would reduce the possibility that the United States would be faced with a need to conduct a nuclear test to diagnose or remedy a stockpile problem. This supports overall U.S. efforts to dissuade other nations from conducting nuclear tests.

- By incorporating modern security features, RRW would strengthen security of U.S. nuclear weapons against unauthorized use (e.g., in the event of a terrorist attack on one of our storage facilities).

- Finally, a safe, secure and reliable U.S. nuclear deterrent, credibly extended to our allies, supports U.S. non-proliferation efforts because allies confident in U.S. extended nuclear deterrence guarantees will not be motivated to pursue their own nuclear forces. This non-proliferation role of U.S. nuclear weapons is often underestimated. Indeed, the nuclear weapon programs of North Korea and Iran have made our nuclear guarantees to allies such as Turkey, South Korea and Japan take on renewed importance.

In summary, our vision to transform the nuclear stockpile and supporting infrastructure through reliable replacement concepts is complementary to, not inconsistent with, our nonproliferation policies and with the long-term goal of global nuclear weapons elimination.

Nuclear Testing

Let me turn in more detail to the nuclear testing issue. I am most concerned about some misunderstandings expressed in the public sphere about our views on the possible need for nuclear testing. Let there be no doubt: Today's nuclear weapons stockpile is safe and reliable and has not required post-deployment nuclear testing to date, nor is nuclear testing currently anticipated or planned. But keeping this stockpile healthy is becoming an increasingly difficult challenge. Periodically we identify problems with warheads that in the past would have been resolved with nuclear tests. Our SSP has worked well so far to help us to avoid that prospect. The considered judgment of the national weapons laboratories directors, however, is that maintaining certification of the finely-tuned designs of an aging Cold War stockpile through the LEP effort and absent nuclear testing involves increasing risk.

An alternative path is a stockpile based on replacement warheads that, unlike Cold War legacy warheads, would be designed for certification without additional nuclear tests. Indeed, our experts best technical judgment *today* is that it will be less likely that we would need nuclear testing to maintain the safety, security, and reliability into the future of the nuclear stockpile if we pursue a reliable replacement path employing all the tools of the SSP, including advanced quantitative means, than if we continue to rely on today's legacy warheads. In December, I provided Congress classified information giving further details on these matters.

Why then do we think it's feasible to field an RRW without nuclear testing? There are four basic reasons:

- First, replacement warhead designs would provide more favorable reliability and performance margins than those currently in the stockpile, and would be less sensitive to incremental aging effects or manufacturing variances.

- Second, feasible replacement designs would be firmly rooted in the past nuclear test data base.

- Third, by pursuing reliable replacement designs now, we would be able to fully utilize the experience of those remaining designers and engineers who successfully fielded our current stockpile during the period of nuclear testing.

- Fourth, the SSP over the past decade has provided improved scientific and analytic tools, including advanced supercomputer simulation and sophisticated experimental capabilities, which were not available to the previous generation of designers/engineers. These tools have led to a much better understanding of the intricacies of nuclear weapons physics and engineering. Indeed, we know more about the complex issues of nuclear weapons performance today than we ever did during the period of nuclear testing.

These four factors, taken together, provide a solid foundation for our confidence that we can certify RRW designs without nuclear tests.

Factors Affecting Future Adjustments to our Nuclear Posture
It is important for us to describe how our concept for transformation—in light of evolving geopolitical threat environments—could provide opportunities for further stockpile reductions. In this regard, the current plan for the nuclear force posture—developed in the 2001 NPR—established objectives for a range of deployed nuclear warheads, a nuclear force structure, and nuclear stockpile for 2012 as well as a general approach to sustain this force beyond 2012. Future administrations will of course adjust, refine and make changes to our posture in response to future events and circumstances. These changes might be unilateral or taken in concert with other nuclear powers. In any case, these changes will be governed by three basic factors: (1) the future geopolitical threat environment, (2) the success of technical efforts underway to ensure a safe, reliable and credible nuclear deterrent for the foreseeable future and to transform the nuclear weapons R&D and production infrastructure that supports it, and (3) our progress in fielding other strategic capabilities, including missile defenses and conventional precision strike.

Geopolitical uncertainties are likely to dominate future considerations of an adjusted force posture. Will Russia succeed in transforming to a democratic society with rule-of-law, respect for human rights, and integration, both economic and political, with the West? Will China's military modernization and political trajectory affect the ability of the United States to protect key interests in the Pacific region? Will nuclear programs of North Korea, Iran, or emerging proliferants cause a proliferation "cascade" in which U.S. allies and friends in key regions contemplate "going nuclear"? How such questions evolve over the next decade and more will affect how future administrations assess national security needs—including plans for assurance of allies—and adjust the level of deployed nuclear warheads (up or down), the composition of deployed nuclear forces, or both.

There are other major uncertainties that are largely domestic in nature, and related to our efforts to sustain and, as necessary, modernize our forces. With regard to nuclear delivery systems, the planned force of 450 Minuteman III ICBMs will begin to reach end-of-life in 2018. Will there be support to develop and deploy a follow-on capability to the Minuteman III ICBM? If so, when and how many will we deploy? If the ICBM force is not replaced at its end-of-life but retired, other nuclear force elements may need to be bolstered to take its place. There are comparable decisions regarding a possible next generation long-range bomber (sooner) and/or

replacement of nuclear ballistic missile submarines (later) that will factor in as well to considerations of adjusting the future nuclear posture.

With regard to the development of U.S. non-nuclear strategic capabilities, there is another set of uncertainties. Will prompt, long-range conventional global strike weapons be developed and deployed? How many? What types? With what effects? What will be the future direction and scope of ballistic missile defenses? What technical advances/breakthroughs (e.g., hypersonic delivery systems) by the U.S. or potential adversaries will occur? Could these affect the military balance? Answers to these questions will determine whether such capabilities could complement nuclear strike capabilities or conceivably replace nuclear weapons for certain missions and thus lead to further adjustments in our posture.

With regard to the nuclear warheads themselves, our long-term goal is to rely more on the capabilities of the infrastructure and less on reserve warheads in the stockpile to respond to unforeseen events. Until we are confident that we have the capability to respond to unexpected developments, however, we will need to retain more reserve warheads than otherwise would be desired. Specifically, our inability to produce plutonium pits in sufficient quantities means that additional warheads are kept in reserve to hedge against technical problems that could arise in the stockpile or adverse geopolitical changes.

If we have an opportunity to realize the benefits of the RRW program, and a more responsive infrastructure that the RRW could facilitate, there will be opportunities for additional stockpile reductions. We are examining a series of potential milestones, reflecting progress on RRW and a responsive infrastructure, that would allow consideration of further adjustments to the reserve stockpile. Accomplishing these milestones would represent levels of confidence gained, or uncertainties reduced, as we proceed forward with stockpile and infrastructure transformation. At various points, accumulated progress would be assessed to see if further adjustments to the reserve stockpile are warranted. To the degree that geopolitical trends evolve in more favorable directions, opportunities exist to consider options for lower deployed as well as reserve forces.

Current Status of the RRW Program

As I said at the beginning of my statement, the Consolidated Appropriations Act, 2008 did not fund completion of the RRW design definition and cost study. The Departments of Defense and Energy continue to believe that the warhead features characteristic of the RRW are the right ones for ensuring the future of our nation's nuclear deterrent. Moreover, Congress specifically requested that the Administration continue related work in FY 2008 in three key areas:

- First, the Act provided $15 million for a new "Advanced Certification" campaign designed to address issues raised in the recent JASON's study of the feasibility of certifying reliable replacement designs without nuclear testing.

- Second, the Act added $10 million to the Enhanced Surety campaign to "to increase the safety and security of weapons in the existing stockpile and develop new technologies for incorporation into potential future systems." This is fully consistent with efforts to apply state-of-the-art technology to replacement warhead designs to enhance security and prevent unauthorized nuclear weapons use by terrorists.

- Third, Congress appropriated $15 million in the FY 2008 National Defense Appropriations Act for the U.S. Navy to carry out studies related to the integration of an RRW warhead with the Trident SLBM reentry system.

NNSA's FY 2009 budget request continues and extends FY 2008 related activities in the following areas:

Advanced Certification ($20 million request): To continue efforts begun in FY 08 to review, evaluate and implement key recommendations from the JASON's RRW study regarding approaches to establishing an accredited warhead certification plan, without nuclear testing, in an era where changes to nuclear components will occur due to aging or design defects.

Reliable Replacement Warhead ($10 million request): To enable maturation of the RRW design in order to address questions raised by the JASON's review of RRW feasibility study activities. Design refinement is necessary to establish parameters for potential impacts on certification. It will also facilitate documenting the work that has been completed through 2007 to support future administration decisions on options for our nuclear weapons stockpile.

Completion of the RRW study was not funded in part due to concerns that the Administration had not fully communicated its policies which guide nuclear forces, posture and programs, including the RRW program. The Administration will shortly provide to Congress a second paper to accompany its white paper on nuclear policy transmitted to Congress in July 2007 by Secretaries Rice, Gates and Bodman. This second paper outlines in detail the overall strategy which guides nuclear weapons programs including the size of the nuclear weapons stockpile and operationally-deployed strategic forces, and how we manage the risk of a less-than sufficient warhead production infrastructure. Our goal is to restore a consensus with Congress to complete the reliable replacement study as a means to insure that the next administration, as mandated by Congress, can complete a timely review of its nuclear posture.

Let me conclude my statement here. I thank the Chairwoman and the Committee for the opportunity to discuss these critical issues for our nation.

Statement of Hon. Michael Vickers,
Assistant Secretary of Defense for Special Operations/Low Intensity Conflict, and Interdependent Capabilities
before
The House Armed Services Committee
Subcommittee on Strategic Forces

February 27, 2008

Opening Remarks

Chairwoman Tauscher, Congressman Everett, and Distinguished Members of the Subcommittee:

I welcome the opportunity to describe our progress in transforming the nation's strategic capabilities to meet 21st century security challenges. I know that you understand the importance of this effort, and I want to thank the members of the subcommittee for your support. Successful transformation of our strategic capabilities will require a sustained partnership between the Department of Defense and the Congress.

Implementing the Nuclear Posture Review (NPR)

As you know, the NPR determined that the Cold War Triad of nuclear strike systems is not adequate to address the range of potential challenges in the new security environment. Accordingly, the NPR established a New Triad possessing broader capabilities, including offensive strike systems (nuclear, non-nuclear, and non-kinetic); defenses (active and passive); and a revitalized defense infrastructure, supported by enhanced Command and Control, Intelligence, and adaptive planning capabilities. Though not explicitly addressed in the NPR,

capabilities in the areas of space and Information Operations are clearly among those needed to meet current and future security challenges.

We have had mixed progress to date in fielding these capabilities. We have had significant success in achieving an initial capability to defend the United States against the emerging long-range ballistic missile threat from North Korea and the Middle East, and in fielding defenses to protect U.S. deployed forces and those of our coalition partners. Much more challenging has been the effort to sustain nuclear force capabilities and revitalize the nuclear infrastructure, and to develop a prompt, non-nuclear global strike capability.

Nuclear Forces and a Responsive Infrastructure

We continue to draw down the number of operationally deployed strategic nuclear warheads, as well as our supporting stockpile of non-deployed warheads, to the lowest level consistent with our national security requirements and commitment to allies. That said, nuclear forces remain the ultimate deterrent capability that supports U.S. national security. Even as they decline in numbers, nuclear weapons are an essential and enduring element of the New Triad, and they underpin these New Triad capabilities in a fundamental way.

The extended nuclear deterrence commitment the United States provides is key to assuring allies and friends of the credibility of U.S. security commitments. U.S. nuclear weapons deter potential adversaries from the threat or use of weapons of mass destruction against the United States, its deployed forces, and its allies and friends. In the absence of this "nuclear umbrella," some

non-nuclear allies of the United States might perceive a need to develop and deploy their own nuclear capability.

At present, the United States is the only recognized nuclear weapons state that does not have the ability to produce new nuclear weapons in quantity. Accordingly, the lives of existing warhead types are being extended through refurbishment. Successive programs to extend the service life of the current inventory of warheads, however, can decrease our confidence in their performance as these warheads deviate from their baseline designs validated using nuclear test data.

Our long-term goal is to rely more on a revived infrastructure and less on the non-deployed warhead stockpile to respond to unforeseen events. We seek replacement of existing warheads with Reliable Replacement Warheads (RRW) of comparable capability to our current weapons that would be less sensitive to manufacturing tolerances or to aging of materials. They would be certifiable without nuclear testing, and have advanced safety and security features that can not be built into our current weapons.

Safety and security take on enhanced importance in the post-9/11 world. While our current systems are safe and secure, RRW will incorporate improved, state-of-the-art safety and security features that will reduce still further any chance of unauthorized use.

The desired size of a responsive nuclear infrastructure, measured in terms of the number of warheads it could produce or refurbish per year, would depend on a number of key variables; but once RRWs are deployed in significant

numbers, many of the warheads now retained in the stockpile as a hedge against reliability problems could be retired. Until a truly responsive nuclear infrastructure is operational, however, the United States will need to retain an appropriate inventory of non-deployed warheads to manage geopolitical, technical and operational risks. The Department will soon provide a white paper, *National Security and Nuclear Weapons in the 21st Century*, discussing the considerations behind U.S. requirements for nuclear weapons in greater detail. This paper will help inform the Nuclear Posture Review to take place next year.

Non-Nuclear Prompt Global Strike

The 2006 Quadrennial Defense Review highlighted an important gap in prompt, long-range conventional (non-nuclear) strike capabilities. Land-based conventional forces, such as fighter and bomber aircraft, could take hours to days to deploy and strike a target. Prompt Global Strike capabilities may be needed for time-sensitive operations such as interdicting the transfer of WMD to terrorists, or preventing a rogue state from launching a ballistic missile armed with a WMD payload. Today, nuclear-armed ballistic missiles are the only means the United States possesses for engaging distant, fleeting targets promptly (within about an hour from the time of an execution decision).

Last year, in response to our request for funding for the Conventional Trident Modification (CTM) program, the Congress appropriated funds for research and development of technologies that could be applied to a wider range of concepts that might provide a prompt, non-nuclear, global strike capability. I

want to thank the Members of this Subcommittee for your support of Prompt Global Strike. DoD accordingly will continue to develop and propose options to expand the range of our strategic capabilities in this area.

Missile Defense Capabilities

Missile defense remains a top priority for the Administration. Missile defenses constitute an essential element of our overall national security strategy to dissuade and deter states of concern from acquiring or using ballistic missiles, and to protect our citizens from the threat of missile attack should deterrence fail. We greatly appreciate the strong support this subcommittee has provided toward developing and procuring this critical capability.

We continue to make good progress in providing an initial capability to protect our population and territory against the emerging long-range ballistic missile threat from North Korea and the Middle East. At the same time, through deployment of Aegis SM-3 and PAC-3 systems, and continued development of THAAD and the airborne laser, we are ensuring we can protect our forward deployed forces and those of our coalition partners against shorter-range missile threats.

We have already seen the benefits of the initial defense against long-range missiles when we activated the system during the North Korean ballistic missile tests in July of 2006. The capability to engage a missile launched in the direction of the United States allowed U.S. leaders to consider a wider range of options than would have otherwise been available. This capability also serves to

devalue any future North Korean attempt to use its missiles to threaten or coerce the United States.

International Missile Defense Cooperation

The United States is committed to working with allies and friends to strengthen our collective capabilities to deal with the dangers of WMD and ballistic missiles. Our largest missile defense cooperation partner is Japan. Facing a direct threat from North Korean missiles, Japan is acquiring both Aegis SM-3 interceptors and PAC-3 batteries. Japan achieved a major milestone in December 2007, when its destroyer KONGO successfully intercepted a ballistic missile target with an SM-3 interceptor – a first for an allied naval vessel. In March 2007, Japan deployed its first PAC-3 firing unit, which together with the KONGO affords the Japanese a layered capability to defend against ballistic missiles. With Japan, the United States is co-developing the SM-3 Block IIA interceptor, a more capable version of the current sea-based interceptor, and we are developing operational plans to share information and to integrate our systems more effectively.

Another important area of missile defense cooperation is our work with Israel. We continue to cooperate on the Arrow missile defense system and have begun to explore with Israel options for addressing ballistic missile threats that exceed the Arrow's defensive capability. An important component of our missile defense cooperation is an ambitious bilateral exercise program over the next two

years that will realistically test our joint capability to address ballistic missile threats.

European Missile Defense Sites

In January 2007, the President directed us to proceed with negotiations on basing U.S. missile defense elements in Poland and the Czech Republic. These defenses are intended to counter the emerging threat both to the United States and to friends and allies in Europe posed by Iranian development of longer-range ballistic missiles. We have had several rounds of negotiations with Poland on a draft agreement to base ground-based missile defense interceptors on its territory. These sessions have been productive, and we have made good progress on a draft text. While the new Polish government has emphasized its position that the agreement should result in a net benefit to Poland's security, it recognizes the growing ballistic missile threat to Europe and the contribution these missile defense assets can make to NATO security.

In parallel, we have had a number of rounds of negotiations with the Czech Republic on an agreement to base a missile defense tracking radar on its territory. These talks have also made great progress and we are in the process of addressing a small number of issues that, once resolved, will allow us to finalize the draft text. Czech officials have shared our commitment to concluding these agreements, while at the same time ensuring that U.S. missile defense assets in Europe will be interoperable with, and complementary, to ongoing NATO missile defense efforts.

Missile Defense at NATO

In addition to pursuing bilateral cooperation programs in missile defense, we are working within NATO on the Alliance's response to the growing ballistic missile threat. We are pleased with the progress being made in the NATO Active Layered Theater Ballistic Missile Defense (ALTBMD) program, which will provide the Alliance's deployed forces a defense against short- and medium-range missiles.

To protect the indivisibility of Allied security, it is important for the rest of the Alliance to be protected against ballistic missile attack. NATO Heads of State and Government recognized the technical feasibility of missile defense at the 2006 Riga Summit, and NATO continues to make progress in this area. While the planned U.S. sites in Poland and the Czech Republic will be important contributions to Allied security, these elements will not protect Allies in southeastern Europe from shorter-range ballistic missile threats. It is our hope that at the Bucharest summit in April, the Alliance will be in a position to recognize the growing missile threat; support territorial defense as a means of addressing that threat; and welcome the contribution that European-based U.S. missile defense assets will make in protecting most Allies against long-range ballistic missiles. NATO also continues to cooperate with Russia in the NATO-Russia Council on Theater Missile Defense, and we have expressed our willingness to work with Russia on broader Missile Defense in the NATO context.

Missile Defense Cooperation with Russia

Because we are building a new security relationship with Russia whose foundation does not rest on the prospect of mutual annihilation, and because we believe that Russia also faces an emerging ballistic missile threat from states such as Iran, we have invited Russia to join us in a cooperative effort to pursue missile defense.

U.S. and Russian missile defense experts have met a number of times over the last year to share intelligence assessments of the Iranian ballistic missile program; discuss transparency and confidence building measures that could address Russia's concerns about our planned missile defenses in Europe; and seek ways in which we could work jointly with Russia to address ballistic missile threats. We have proposed cooperation in such areas as modeling and simulation; sharing of early-warning data; building a joint regional missile defense architecture; and conducting joint exercises and wargames. Missile defense also featured prominently in last October's "2+2" meeting in Moscow, where Secretaries Gates and Rice discussed a number of strategic issues with their Russian counterparts. We remain committed to showing through our continued discussions, and through our concrete proposals, our sincere desire to work with Russia to address an emerging threat that affects us all while demonstrating that our missile defense program poses no threat to Russia.

Space Capabilities

We rely on services provided by space capabilities in all facets of our daily lives, and these capabilities are vital to our national security and the global economy. At the same time, potential adversaries continue to seek means to counter the advantages we obtain from space and to use space capabilities against us. Our space capabilities face a wide range of threats such as radio frequency jamming, laser blinding, and anti-satellite systems, including the anti-satellite capability demonstrated by China last year. In this regard, we are working to assess the strategic implications of such counter-space capabilities for our vital interests in space, and are carefully factoring the results of our assessments into our architecture planning efforts and investment priorities.

U.S. National Space Policy is based on a number of long-standing principles. The U.S. rejects claims of sovereignty by any nation over space; rejects limitations on the fundamental right to operate in or acquire data from space; and retains the right of free passage through and operations in space without interference. Consistent with these principles, the U.S. views purposeful interference with its space systems as an infringement on its rights and will take those actions necessary to preserve its freedom of action in space.

U.S. National Space Policy directs the Secretary of Defense to develop capabilities, plans, and options to ensure freedom of action in space, and if directed, to deny such freedom of action to adversaries. The Department's investment strategy for space and space-related activities seeks to balance a number of requirements. We need to: modernize space situational awareness

capabilities to ensure ample warning of hostile acts; improve protection plans to ensure required capabilities are available in a contested space environment; develop architectural solutions, including Operationally Responsive Space concepts, to ensure capabilities are available when needed; establish an operations posture, to include appropriate planning and exercises, to respond to attacks on U.S. space interests; and ensure the ability to deny adversaries the use of space capabilities to harm our forces or our homeland.

The Department of Defense further implements our National Space Policy by supporting efforts to promote safe and responsible use of space. We seek mutually beneficial international cooperation on space activities, and support commercial and foreign space surveillance needs to ensure safe space operations. DoD seeks to promote compliance with existing legal regimes, acceptance of international debris mitigation guidelines, and development of additional voluntary guidelines for safe and responsible space operations. We also do our best to protect mutual security interests related to dual-use space technology and services.

Information Operations and Cyberspace

Providing our Combatant Commanders the capability to integrate into their planning the various elements of Information Operations – computer network operations, electronic warfare, psychological operations, military deception, and operations security – has become even more important in the information age. Our potential adversaries, both nation-states and non-state actors, continue to

seek ways and means to counter the advantages we obtain from our use of information, and to turn those same advantages against us in both conventional and an unconventional ways. We are assessing the strategic implications of our potential adversaries' capabilities in this regard, and factoring those results into our planning and investment priorities for information operations.

We are continuing to develop deterrence strategies to address potential adversaries' attempts to counter our information advantages. We are working closely with our interagency partners, to define this domain in terms that will allow us to scope the missions that we will be asked to conduct. This domain crosses the physical boundaries within which we operate -- space, air, land, and sea -- as well as the organizational boundaries – military, civil and commercial -- making this a complex problem. It is imperative that we understand our roles, both active and supporting, so as to provide the best possible options for the nation.

The ability to operate freely within cyberspace is critical to military operations and U.S. national security, but the threats to our computer networks are real and growing. Numerous organizations, such as the Joint Task Force-Global Network Operations, the Defense Information Systems Agency, U.S. Strategic Command, and the National Security Agency's Information Assurance Directorate are working together to defend our Global Information Grid. But while these significant resources and effort are devoted to defending our computer networks against attempted intrusions on a daily basis, technology changes, and

so do the threats. We recognize that this will be a long-term effort, and while much remains to be done in this area, we are making progress.

Conclusion

Transformation of our nation's strategic capabilities to meet the uncertainties and challenges ahead depends critically on a sustained partnership between the Department of Defense and the Congress. We need to continue the progress on missile defense; sustain our nuclear capabilities through the RRW program and revitalization of the nuclear infrastructure; develop and deploy a conventional, prompt Global Strike capability; ensure continuity of service of our space systems as we recapitalize and modernize these capabilities; and protect our ability to operate freely within the information environment while preventing adversary use of information against our interests. I look forward to working with you to achieve these goals.

QUESTIONS AND ANSWERS SUBMITTED FOR THE RECORD

FEBRUARY 27, 2008

QUESTIONS SUBMITTED BY MS. TAUSCHER

Ms. TAUSCHER. The House-approved FY 2008 defense authorization bill contains a provision establishing a strategic commission to evaluate U.S. strategic posture for the future, including the role that nuclear weapons should play in the national security strategy. What key questions should the commission consider?

General CHILTON. Today we can predict neither who our adversaries might be in 2030-2040, nor the precise nature and scale of the threats they might pose to our security in that timeframe, any more than our predecessors in 1940 could predict the threats we would face in 1962-1972, not those in 1980, could predict the threats we would face in the 2002-2012 period. Yet, decisions we make in the next several years will profoundly shape the strategic forces, both conventional. and nuclear, kinetic and non-kinetic, that we will have available out to 2030-2040. Thus, our challenge in defining and building our future strategic posture is to address the Nation's security needs over decades, not years. This means our focus must be on what our forces will need to be able to do now and in the future, rather than on specific threats they will need to counter. With such a comprehensive, capabilities-based approach in mind we suggest the commission consider the following questions:

1. Over the next two or three decades, what must U.S. forces and supporting infrastructure be able to do in order to:
   a. Assure our allies regarding our security commitments
   b. Dissuade undesirable military competition
   c. Deter attacks on our vital interests
   d. Defend U.S. vital interests and, if necessary, defeat any adversary in a manner that results in an outcome favorable to U.S. interests

What are the strategic capabilities required to enable U.S. forces to do what is required in pursuit of these goals over that timeframe?

2. What roles do U.S. nuclear weapons play in that set of strategic capability requirements? Which of these roles are unique to nuclear weapons? Which of these roles represent a contribution nuclear forces make to the broader strategic posture and capabilities set?
3. What are the decision and programmatic timelines associated with providing the identified strategic capability requirements, including essential supporting infrastructure?
4. How can a bipartisan consensus be built behind the identified set of strategic capability requirements so that the required decisions can be made and sustained?
5. How should we posture our nuclear weapon enterprise today to be able to adequately respond to future technological surprise or a sudden change in the national security environment?

Ms. TAUSCHER. What has changed in our security environment since the last Nuclear Posture Review (NPR) that should be emphasized in the strategic commission?

General CHILTON. Since the 2001 NPR, a number of significant events and programs have changed our strategic security environment:

- Initiation and conduct of the global war on terror in response to al Qaeda attacks on the U.S.
- Profound intelligence failures regarding WMD programs in Iraq
- China tested an anti-satellite weapon and continues an extensive modernization of their conventional and nuclear forces
- North Korea tested a nuclear weapon and launched a Taepo Dong 2 missile
- The U.S. and Russia stayed on track to meet the nuclear weapons stockpile limits set by the Moscow Treaty
- Iran has made important advances in its pursuit of nuclear technology and long range missiles

- State and non-state actors continue to pursue and proliferate ballistic missile and WMD technology
- Increased global dependence on cyberspace and the threat posed by increasing cyber intrusions
- Growth of U.S. Ballistic Missile Defense system capabilities

Intensification of multiple pre-2001 global trends:

- Ethnic and religious conflict
- Increasing international demand for diminishing resources
- Economic rise of China, India, and Russia
- Evolution of the NATO alliance
- Lack of governance in "failed states"

Ms. TAUSCHER. What are the gaps or shortfalls between the objective capabilities in the New Triad identified in the last NPR and our Nation's current strategic capabilities? Where is the most and the least progress being made? Please describe any impediments to achieving the objectives outlined in the New Triad.

General CHILTON. The New Triad strategy mandates a broader set of capabilities to ensure a credible deterrence in the 21st century. In addition to the legacy nuclear TRIAD, it envisions a mix of advanced offensive and defensive capabilities enabled by a robust infrastructure and improved command and control, planning, and Intelligence, Surveillance, and Reconnaissance capabilities. Since 2001, USSTRATCOM's Integrated Priority List has reflected capabilities necessary to achieve the strategy. In addition, we have been working very closely with the other Combatant Commanders to articulate capabilities needed using the Senior Warfighters Forum process. The most significant advancements have been made in reducing our legacy nuclear forces to a level commensurate with our national security needs and fielding an initial missile defense capability. Key challenges remain, including recapitalizing the Nation's aging nuclear infrastructure, fielding a conventional prompt global strike capability, developing a robust cyber operations capability, improving space situational awareness, increasing satellite communications throughput and information transport capabilities, and evolving to a modern National Command Capability. We must ensure we are taking the right steps to have the human capital available to support these varied missions and understand that further reductions of the nuclear stockpile are constrained by the ability of the nuclear infrastructure to respond to a technological surprise, or a national security need. The New Triad strategy requires significant transformation and recapitalization, including a significant fiscal commitment and continued balancing of risks along the path.

Ms. TAUSCHER. What do you believe are the security threats with the greatest implications for our strategic posture, policies, and capability investments?

General CHILTON. The greatest strategic security threats are those that would prevent U.S. military freedom of action in the Air, Maritime, Space, and Cyberspace domains. These are strategic domains that are fundamental to the global projection, command and control, and sustainment of U.S. military power. Without freedom of action in these domains the U.S. would be unable to defend its vital interests both at home and abroad.

Threats that would deny U.S. use of space and cyberspace capabilities also have strategic implications. Our dependence on Cyberspace and space-enabled capabilities creates potential vulnerabilities with far reaching implications. We depend on cyberspace and space.

Weapons of mass destruction in the hands of non-state actors or rogue states, particularly those with regional or global delivery systems is another security threat we face today. Non-state actors' attempts to acquire WMD combined with challenges to the political stability of several nuclear-capable nations undermine non-proliferation efforts and present a serious threat to our national security today and in the foreseeable future.

Ms. TAUSCHER. After taking command in October and reviewing STRATCOM's missions, organization, and priorities, please comment on your assessment of the command. What, if any, changes you might implement?

General CHILTON. I have been privileged to find a Command filled with such a hardworking team of military and civilian members. The Command has done an extraordinary job adapting to—and achieving successes in executing—tasks across the range of assigned missions. As we move forward in refining our execution of Unified Command Plan assigned missions, our biggest efforts will be in operationalizing our abilities to execute within two key sets of missions. The first are our primary lines of operation, the areas where we are executing operations across boundaries each and every day: Space, Cyberspace, and Strategic Deterrence. The second set are missions where we work to find and knit together the gaps and seams between

Commanders' areas of responsibilities and capabilities to enable mission effectiveness: Integrated Missile Defense, Combating Weapons of Mass Destruction, Intelligence, Surveillance, and Reconnaissance, and Information Operations.

Structurally, our Command and subordinates can execute assigned missions, in some cases, requiring manpower augmentation to achieve the desired capacity. We plan no structural changes but are studying the manpower alignment among our components.

Ms. TAUSCHER. Today, while STRATCOM is active in setting warfighter's requirements for military capabilities, it is the responsibility of the services to fund and develop those capabilities. Please describe the working relationship between STRATCOM and the services.

General CHILTON. USSTRATCOM works to maintain an effective working relationship with each of the Services to fund and develop warfighting capabilities. USSTRATCOM's annual Integrated Priority List (IPL) is our entry point into Service budget process. The IPL clearly outlines those warfighting capability gaps we assess as unacceptable and serves as a valuable mechanism to focus the Services during development of their respective budgets. Throughout the budget cycle, we work directly with the Services, our Components, the Joint Staff and OSD to identify, develop and fund programs required to close these gaps. This year for example, USSTRATCOM conducted a detailed review of the IPL with each Service component. The session was conducted early in the development cycle for Service budgets: USSTRATCOM is also an active participant in review and assessment of Service budgets before they are submitted to the President. In summary, we enjoy a positive relationship with the Services and I am satisfied the processes we participate in ensure our requirements are visible and appropriately adjudicated.

Ms. TAUSCHER. What strategic missions and warfighter needs are not being met by the current DOD investment portfolio?

General CHILTON. USSTRATCOM continues to monitor the state of our nuclear force and we are actively engaged with our Service Components to ensure timely investments are made to replace aging components' before they reach end-of-life, fill existing gaps, and begin required research and development to preclude future capability gaps. We need Congressional support to fund the Department's request for a Conventional Prompt Global Strike (PGS) capability and a reliable replacement warhead. With regard to our ability to strike high-value, time sensitive targets in denied territory, current response options available to our Nation's leadership are limited to either the availability of pre-positioned conventional forces or a self-deterring long-range nuclear response. PGS provides a responsive flexible option to achieve national security objectives. In addition, I am increasingly concerned with the Nation's ability to sustain a safe, secure, and reliable nuclear warhead stockpile in the absence of underground nuclear testing.

In the 21st Century, the mindset of space as purely an "enabler" must change. The Chinese kinetic Anti-Satellite test (ASAT) conducted in early 2007 made it clear that space is not a sanctuary. Our adversaries understand our dependence upon space-based capabilities and are actively developing capabilities that will challenge our Nation's dominance and could deliver a crippling blow to national defense. I request continued Congressional support in the development and fielding of a credible deterrent capability to deter and if necessary defeat any and all threats to our space systems.

In the cyber arena, the Department's technology investments are making a difference, but the ever increasing threat is rapidly outstripping our manpower resources. Implementing a strategy to build the required cyber workforce is a high priority as we enter the next budget cycle. Our challenge is to define, shape, develop, deliver, and sustain a cyber force second to none, and our most pressing need is to produce adequately trained cyber warfare personnel. Congressional support of the President's budget will enable DOD to expand the training pipeline, and we pledge to work with Congress as we develop our future resource and manpower requirements for DOD cyber capabilities.

Ms. TAUSCHER. Please describe the process involved in setting requirements for the future nuclear force structure. What is STRATCOM's role? What obstacles or challenges might be impeding more specific definition of military requirements for the future nuclear force structure?

General CHILTON. National level policy and strategy provide the guidance for DOD's processes which determine requirements, guide acquisition, and allocate resources. These processes are informed by analyses conducted in a collaborative manner between the Services, Joint Staff, Combatant Commanders, and the Office of the Secretary of Defense. USSTRATCOM is a principal participant in these analyses and is responsible to identify military requirements to the Joint Requirements Oversight Council and advocate for sufficient funding in DOD's budget formulation proc-

ess. USSTRATCOM is also a statutory voting member of the Nuclear Weapons Council and is instrumental in the development of nuclear stockpile,, requirements. The key challenge we face in our desire to reduce nuclear force structure to the lowest level necessary to meet national security requirements is our lack of progress in building a responsive nuclear infrastructure and replacing our cold war era designed and built nuclear weapons with a family of more reliable, safe, secure, and maintainable weapons.

Ms. TAUSCHER. What warfighter requirements could be met by the proposed RRW? Can these needs be satisfied by maintaining the current stockpile through the Stockpile Stewardship Program and Life Extension Programs (LEPs)? Why or why not?

General CHILTON. Modern replacement warheads will enable us to improve performance margins (which yields increased), security, safety, and maintainability of our nuclear stockpile. Our Cold War era warheads have decreasing performance margins (and hence decreasing reliability) and are becoming increasingly difficult and expensive to maintain and certify. Life extension programs do not allow increases to performance margins, security, and safety of the current stockpile. The real risk is that we could someday detect a catastrophic technical failure of a family of Cold War era warhead and are unable to repair and certify the warhead. We believe these risks are higher for the current stockpile than for modern replacement warheads. To mitigate these risks, we continue to maintain a larger hedge of non-deployed warheads than would be necessary for a stockpile of modern warheads. Fielding a family of warheads with increased margin, safety, security, arid maintainability prioritized in the design criteria will allow a reduction in the non-deployed nuclear stockpile. Current weapons remain safe and secure, but in today's security environment and with modernization, we can and should do better. The American people deserve the safest, most secure and reliable stockpile we can deliver without underground nuclear testing.

Ms. TAUSCHER. What risks do you see, if any, in pursuing an "LEP only" strategy, as opposed to proceeding with the reliable replacement warhead? Are there force structure implications based on whether the Nation pursues a "LEP only" or RRW approach? If so, what?

General CHILTON. It is increasingly challenging and expensive to certify and maintain legacy warheads. The most significant risk is our potential inability to certify the reliability of a weapon after detecting a significant technical failure that we previously would' have resolved with underground nuclear testing. We believe these risks are greater for our highly optimized, Cold War era warheads that required nuclear testing in the past than for modern replacement warheads optimized for certification without nuclear testing. To mitigate these risks we continue to maintain a larger hedge of non-deployed warheads than would be necessary otherwise with a more modern design. The warhead sustainment approach we take has implications for the stockpile size but not for force structure size (i.e. the composition and mix of nuclear delivery systems). Force structure requirements are dictated by policy.

Ms. TAUSCHER. How do decisions on future delivery systems (e.g., JCBM, bomber modernization) impact RRW capabilities and timelines? Conversely, how do RRW decisions influence development of future delivery systems?

General CHILTON. Modern replacement warheads must provide the same military capability as the legacy warheads they replace. We are not advocating for new nuclear capabilities. With respect to legacy systems, we will make different trades than were made during the Cold War to make the warhead compatible with an existing system. For example, a modern replacement warhead might have less explosive power—which is OK—given the increased accuracy of our delivery systems. With respect to future delivery systems, we think it will enable us to take full advantage of the attributes a modern replacement warhead provides when designing those systems resulting in improved reliability, safety, security and maintainability.

Ms. TAUSCHER. What role would RRW play in the Nation's overall strategic deterrence objectives, particularly given investments in a conventional PGS capability?

General CHILTON. The increased reliability, safety, security, and maintainability of modern replacement warheads provides increased confidence in our ability to meet our strategic deterrence objectives. This will enable us to further reduce our reliance on non-deployed warheads to achieve the smallest nuclear stockpile consistent with national security requirements. PGS capabilities, when fielded, will provide non-nuclear strike options contributing to deterrence but will not eliminate the need for a credible nuclear deterrent. The U.S. will maintain nuclear weapons as long as other nations continue to possess them.

Ms. TAUSCHER. The FY 2008 re-direction of Conventional Trident Modification (CTM) funds precludes the leading option for a near-term PGS capability. What options will be explored with the funding ($117.6 million) proposed for FY 2009?

General CHILTON. Broadly speaking, USSTRATCOM's goal is to coordinate Air Force, Navy and Army research, development, test and evaluation efforts through recommendations for the Defense wide Prompt Global Strike account which is being managed by the Office of the Under Secretary of Defense for Acquisition, Technology & Logistics—to mature key enabling technologies required to deploy a land-based PGS capability as soon as possible.

Ms. TAUSCHER. What are the military's requirements for mid-term and long-term PGS capabilities? Can you comment on potential scenarios where a PGS capability would be used?

General CHILTON. USSTRATCOM requires a capability to deliver prompt, precise, conventional kinetic effects at intercontinental ranges against strategic, high-value targets in denied territory. We are focused on maturing technologies to field a system and close the capability gap as soon as possible. Prompt global strike capability will provide greater flexibility for National leadership and is most appropriate when there is a serious threat to national security, and time to position today's global strike capabilities is not available, such situations could include attacks against our critical national space capabilities.

Ms. TAUSCHER. What are your views of the relative merits between the CTM concept and a possible conventional ICBM?

General CHILTON. CTM was proposed as a near-term hedge PGS solution until more flexible or capable systems are developed and fielded. The CTM has merit because it can be fielded quickly with demonstrated technology and leverages existing SSBN infrastructure. A fully mature conventional strike missile concept could provide additional flexibility through payload options, extended range and enhanced maneuver to engage targets. The conventional strike missile (land based approach) concept will not be co-located with existing nuclear weapons basing and affords over time the ability to improve capability as new technology becomes available.

Ms. TAUSCHER. What role did STRATCOM play in the planning for the attempted intercept of the non-responsive satellite?

General CHILTON. On behalf of the Department of Defense, USSTRATCOM led dual planning efforts: to intercept the failed satellite and to conduct global consequence management for the hazardous hydrazine propellant, if the intercept had failed. USSTRATCOM integrated the efforts and capabilities of multiple geographic combatant commands and numerous Federal agencies that were required to achieve mission success. Once the decision was taken to conduct the intercept, USSTRATCOM coordinated preparations and directed the specific intercept based on the approval of the SECDEF.

Ms. TAUSCHER. What capabilities are the services, combatant commands, and the intelligence community telling you they need from future space systems? How do you see STRATCOM facilitating the efforts needed to meet these needs? How are these needs and their priorities reflected in the FY 2009 DOD budget request?

General CHILTON. Space system requirements are developed in wide collaboration between DOD the Intelligence Community (IC) and other Federal agencies. These requirements include space situational awareness (SSA) and space weather; space protection; uninterrupted nuclear C2 and missile warning capabilities, world-wide positioning, navigation and timing data; global communications; and Intelligence, Surveillance, and Reconnaissance; as well, as the enabling capabilities to support those missions, launch ranges, and ground infrastructure.

We facilitate these efforts through contribution, interaction, and participation with Capability Portfolio Managers, our Integrated Priority List, Senior Warfighter Forums, the DOD Joint Requirements Oversight Council (JROC) and Mission Requirements Board (MRB), Integrated Collection Architecture, and the Planning, Programming, Budget and Execution process. There is adequate balance across all domains given the current total obligation authority.

Ms. TAUSCHER. Are current joint space programs with the intelligence community adequately supporting warfighter intelligence requirements? How would you change the investment strategy to better support the warfighter in theater?

General CHILTON. Recent realignment efforts, including the stand-up of our Joint Functional Component Command for Intelligence, Surveillance, and Reconnaissance and the Defense Intelligence Operations Coordination Center resulted in better alignment with the Intelligence Community. Developments such as the Broad Area Space-Based Imagery Collector provides a tiered, enterprise solution of airborne, commercial and national imagery systems that could serve as a model for fulfilling other warfighter intelligence requirements.

Future investments need to address future capability gaps in information transport, net-centric data sharing, improved modeling and simulation tools, analytical tools, and better automated decision aids. Investing in on-going data integration efforts will better support warfighter intelligence requirements while providing tradeoff opportunities in sensors, processors, and analysis. However, there is also on going collaboration with the Intelligence Community in several areas to develop shared investment strategies to create efficiencies for future systems.

Ms. TAUSCHER. Please describe the potential operational concepts and value that "operationally responsive" space (ORS) solutions provide to the joint forces. What is your assessment of the ORS program office implementation and its responsiveness to warfighter needs?

General CHILTON. ORS solutions may provide the joint force a diverse set of space capabilities that address urgent needs for warfighting effects. Expected ORS solutions include 1) better/innovative use of existing, fielded space capabilities (both in-space and on-ground), 2) rapid deployment of field-ready capabilities to augment current or replenish lost capabilities, and 3) accelerated development of new capabilities when required.

While it is too early to give a full assessment of the ORS Office, my initial assessment is that the ORS Office has been effective in their first six months of operations and that they are progressing toward laying this foundation for the future.

Ms. TAUSCHER. How are space assets modeled in warfighter operational plans (OPPLANS) and contingency plans (CONPLANS)? How do OPPLANS and CONPLANS account for scenarios where our space assets are neutralized or attacked?

General CHILTON. Geographic combatant commanders assume current space assets will be available during contingency operations incorporating these space capabilities in their OPLANS and CONPLANS. While a robust modeling of these systems has not reached an ideal level of maturity, in the course of plan development, particularly as a part of exercises and training, planners assess applicable space assets and their necessity for the developed plan. In the case that an exercise indicates the loss of space assets, planners develop branch plans to account for and mitigate the effects of those losses. As part of risk mitigation, planners consider a layered approach of alternate systems (both space, air, and terrestrial) with commensurate capabilities to support military operational effectiveness.

Ms. TAUSCHER. To what degree do current military exercises and wargaming incorporate scenarios where our space assets are neutralized or attacked and scenarios where redundancies or alternatives are exercised?

General CHILTON. Using a blended training and exercise approach, STRATCOM utilizes tailored event scenarios which show the exercise adversary taking measures to purposefully jam satellites or create jamming in exercise operating areas that degrades or denies associated capabilities resident on targeted platforms: Additionally, by utilizing the blended training and exercise approach, STRATCOM is capable of swiftly reacting to emerging threats by building scenarios to train Blue Players on an as-needed basis. An example of the training program responding to emerging threats occurred during the multiple training sessions that provided crewforce training for the recent engagement of a re-entering satellite.

STRATCOM also incorporates degradations to satellites and satellite support equipment, as well as disruptions from Space Weather that negatively impacts on-orbit assets or negatively impacts the use of satellites by Blue Players during an exercise. These types of events have been incorporated in the past in the GLOBAL series of exercises and will continue to be exercised during the upcoming GLOBAL THUNDER 2008 and GLOBAL LIGHTNING 2009.

As far as redundancies or alternatives being exercised, STRATCOM has used exercise scenarios that require Blue Players to realize that coverage or operational capabilities can be used despite the associated system being degraded or denied. Specifically, we train the Blue Player to realize that perfect coverage is not always required to have use of a particular asset. STRATCOM will continue to use scenarios where redundancies or alternatives are exercised during GLOBAL STORM/AUSTERE CHALLENGE 2008 and other future exercises.

Ms. TAUSCHER. What is our national and military policy if our space assets are attacked? Do we have clear "red lines" or thresholds for attacks against our space assets? What are the merits of a declaratory policy that signals our intent and lays out consequences? What are the merits of "rules of the road" in space?

General CHILTON. The 2006 national space policy declares U.S. space capabilities as ". . .vital to its national interests. Consistent with this policy, the United States will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to so; take those actions necessary to protect its space capabilities; respond to inter-

ference; and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests."

The unique global nature of space capabilities and the ramifications of purposeful interference or destruction require complex international considerations. While no "red lines," or thresholds for attacks against our space assets exist, our current national space policy provides adequate guidance to allow the U.S. appropriate responses on a case-by-case basis.

The U.S. has developed its space capabilities within the context of a body of international law referred to as the Outer Space Regime—a manifestation of the body of space law comprised of international and domestic agreements and precedents. Rooted in the ideals of "space for peaceful purposes" and "free access," the existing Outer Space Regime is sufficient in regulating military activities in outer space, without presenting additional constraints, such as a restrictive "rules of the road," that may limit flexibility to future challenges.

Ms. TAUSCHER. The head of Army SMDC has said that within three years, China may be able to challenge the U.S. at a "near-peer level" in space. What are STRATCOM and DOD doing to ensure that the U.S. military will maintain its access to space, to defend U.S. interests in space, and to engage in mutual threat reduction measures?

General CHILTON. U.S. National Policy for space is based on freedom of access for all space faring nations who follow international conventions on space. The significant U.S. use of space is founded on maintaining access to space and deterring those who would threaten any nation's rights to peaceful use of space. If deterrence should fail, then we will defend U.S. interests in space. STRATCOM's assessment is that no single nation presently or in the near future possesses the capability, short of the use of nuclear weapons, to defeat our space systems. However, several nations are developing their space capabilities, and with significant investments could pose a challenge to our freedom of access in the future. In order to maintain our assured access, STRATCOM articulates the warfighters' requirements that the services and the Intelligence Community (IC) provide.

STRATCOM is working in close coordination with the Office of the Director of National Intelligence (ODNI), across the Intelligence Community, and the Services on the integration of the Intelligence Collection Architecture (ICA). The ICA is an overarching IC effort to tackle "hard" intelligence issues. It is jointly led by the ODNI and the Under Secretary of Defense for Intelligence. STRATCOM participates across the ICA effort, with STRATCOM's Directorate of Capabilities and Resource Integration as Command Lead, supported by our Directorate of Intelligence. One of seven chartered ICA working groups is the Space Survivability Working Group, which is assessing threats to U.S. space architectures. They will identify the highest priority investments to protect critical intelligence capabilities that can be implemented within 10 years, and develop specific programmatic proposals to be considered in the FY 2010-15 budget builds for the National Intelligence Program and Military Intelligence Program.

STRATCOM participation in the ICA is linked with a range of ongoing STRATCOM activities with other DOD, Joint Staff, IC, and Service efforts in the Intelligence, Surveillance, and Reconnaissance arenas, including Operationally Responsive Space. These ongoing efforts are worked in consonance with the guidance established in the National Military Strategy and National Space Strategy.

Ms. TAUSCHER. What do you see as the limiting-technologies in future conflict scenarios? Are current investment plans addressing this need?

General CHILTON. One significant challenge will be to ensure information gets to the users in time to be actionable. Information in a net-centric environment will make information available to participants (people, processes, or systems).

We will need to be able to transport this information globally through space in volumes and speeds meaningful to all warfightes. In addition, the ever expanding number and sophistication of objects in space is out pacing our capacity and capability to monitor and characterize those objects which could pose a threat to our ability to use space. We need to continually explore technological opportunities to increase our awareness of the operational environment of space and our ability to counter any threats. As our dependence on complex information systems and applications in the space and cyber domains increases, so too does the risk to vulnerabilities inherent in complex systems. Additionally; the proliferation of emerging telecommunications/information systems technology challenges our ability to combat and defend against potential adversary use of that technology. We need to continually explore technological opportunities to increase our awareness of the operational environment of space and cyberspace and our ability to counter any threats. We have aggressively worked the FY09 budget with the Services and Agencies emphasizing our most critical needs are identified and addressed.

Ms. TAUSCHER. Please describe what missile defense capabilities are included in this year's Prioritized Capabilities List (PCL). How does the budget request reflect the PCL?

General CHILTON. The current PCL covers the entire span of missile defense capabilities requested by the warfighter. The Missile Defense Agency Summer Study did an alignment of the MDA Program of Record against the PCL. The conclusion from the study indicates that while there are funding shortfalls to fully meet desired capabilities, MDA PB09 reflects expenditures against all 27 PCL capabilities.

Ms. TAUSCHER. What is STRATCOM's assessment of the Missile Defense Agency's revised Block Structure? Does it reflect the warfighter's prioritized capability needs?

General CHILTON. Our assessment is that the revised Block Structure allows the Missile Defense Agency to address concerns about transparency, accountability, and oversight to better communicate to Congress and combatant commands MDA's plans and baselines for its continuing improvements in Ballistic Missile Defense System capabilities, MDA has given thorough consideration to the warfighters' Prioritized Capabilities List. in its development goals and fielding priorities. The establishment of the near-term, sea-based terminal program in the current FY08 budget is an example.

Ms. TAUSCHER. Last year, LTG Kevin Campbell, Commander of the JFCC–IMD, testified that STRATCOM's analysis (i.e., the Joint Capabilities Mix Study) indicated that combatant commanders required twice as many THAAD and SM–3 interceptors than are currently planned in order to meet current requirements. I understand that STRATCOM has recently completed further analysis on this subject in the Joint Capabilities Mix Study II. What were the key findings from this study and when will you be in a position to brief the Committee on its results?

General CHILTON. The Joint Capabilities Mix (JCM) II study provides an initial recommendation for the minimum number of THAAD and SM–3 interceptors required by 2015. The Joint Integrated Air and Missile Defense Organization (JIAMDO) is available to brief the results in a closed session upon your request.

Ms. TAUSCHER. To what extent will the results of that study be taken into account as DOD develops the fiscal year 2010 budget request?

General CHILTON. Joint Staff-led Joint Capabilities Mix Study Part II (JCM II) was completed in March 2007 and will be considered by Services and MDA as POM 10 is finalized.

Ms. TAUSCHER. How would STRATCOM assess missile defense testing conducted to date and MDA's test plans? Are they sufficient to give you confidence in the operational effectiveness of the Ballistic Missile Defense System? If not, what changes would you suggest?

General CHILTON. MDA is on a solid track in the effort to improve operational realism of the planned tests. As the advocate for the warfighter, we have developed the Operational Readiness & Acceptance (OR&A) process that deliberately integrates warfighter test and exercise objectives in the BMDS test program. MDA has been receptive and responsive to this process. The upcoming flight test of the Ground Based Midcourse Defense (GMD) system is a good example of increasing operational realism in these venues.

Missile defense tests are assessed by three organizations: MDA's Capability Assessment Team, the joint Service Operational Test Agency, and OSD's Director of Operational Test and Evaluation group. These organizations provide independent assessments and reports—reports that the Warfighter uses, along with its participation in test and operations, to conduct their military utility assessment.

Ms. TAUSCHER. In testimony before the Senate Armed Services Committee last year, your predecessor, General James Cartwright, said his priority for missile defense was to focus greater attention and resources on the threat from short- and medium-range ballistic missiles. Do you share General Cartwright's view that we need to place greater priority on countering the threat from shod-and medium-range ballistic missiles?

General CHILTON. The results of the JCM II have highlighted the need for an increase in our capabilities to counter short and medium range missiles, specifically to increase the number of THAAD and SM–3 interceptors. I support this assessment.

Our mission at STRATCOM is to advocate for desired missile defense capability and characteristics for all Combatant Commands. The Geographic Combatant Commanders who have responsibility for countering short- and medium-range ballistic missiles within their areas of responsibility (AOR) are actively determining the relative priority of the capabilities they need to counter threats, facing the U.S. The COCOMs then provide STRATCOM the justification necessary for us to advocate for new capabilities via the DOD Missile Defense Executive Board and the Prioritized

Capabilities List. MDA factors COCOM inputs into their budget to achieve an effective balance for defense against the threat.

Ms. TAUSCHER. Where do you believe we should focus our priority with regard to missile defense?

General CHILTON. Missile defense (MD) directly supports the new Strategic Triad by deterring and dissuading potential adversaries from investing in missile technologies; and, when necessary, effectively defeating rogue nation ballistic missile threats to the US. The present program for missile defense is being extended to corer deployed forces and Friends and Allies. Toward that end, we must develop effective missile defense capability with following focus:

- Develop a capability to counter the growing Iranian missile threats
- Integrate—global missile defense capability that integrates with Allies and other capabilities within the Triad
- Inventory—increase the current MD inventory against all threat ranges. Investments develop advanced technologies to stay ahead of emerging threats

Ms. TAUSCHER. The FY 2009 budget request contains $720.0 million for a European missile defense site. For a number of reasons, deploying long-range interceptors in Europe will raise serious command and control challenges. To what extent have STRATCOM and other combatant commander begun to plan to operate a European missile defense site?

General CHILTON. USSTRATCOM, in collaboration and coordination with the other Combatant Commands, has been working to establish the Global Concept of Operations (CONOPS) that would address command and control questions to include those associated with the European Capability. We have conducted O–6 and General/Flag Officer (GOFO) tabletop discussions with the Combatant. Commanders, Services, MDA, and OSD and have developed recommended courses of action for the CONOPS. We expect to complete our findings this year and seek formal approval.

Ms. TAUSCHER. What do you believe are the key command and control challenges associated with a European missile defense site?

General CHILTON. We are examining several command and control structures with varying degrees of centralization to address the globalization of missile warfare. The key, challenge will be to integrate the European Capability within the context of the U.S. and theater missile defense systems to provide for effective operations across the system's functional and geographic boundaries.

Ms. TAUSCHER. To what extent has STRATCOM begun to engage the NATO Military Authorities on command and control issues associated?

General CHILTON. STRATCOM has begun engagement with NATO on identification of Command and Control (C2) issues through information exchanges, exercises, and war-games with NATO's Active Layered Theatre Ballistic Missile Defense Program Office.

Ms. TAUSCHER. MDA is fundamentally a research and development organization with responsibility to develop future capabilities, However, because the services have generally been reluctant to assume responsibility for fielding missile defense capabilities, MDA has taken on much of this responsibility. The FY 2008 NDAA an independent study to examine MDA roles and missions, which is to be conducted by the Institute for Defense Analysis (IDA). What recommendations would you make to the study team to ensure that MDA is responsive to the warfighter in the future?

General CHILTON. USSTRATCOM participated in the 2007 MDA Summer Study that examined means to improve MDA responsiveness. We would submit these recommendations from MDA's 2007 Summer Study to IDA. The MDA 2007 Study Recommendations:

- Restructure the MDA Systems Engineering Process (SEP) to include additional warfighter inputs at key points
- Improve Warfighter Involvement Process (WIP) activity to encompass analysis of quantity, operating locations, and deployment timing
- Restructure/expand the change request process to permit resolution of single element items, fielding, and training requests
- Insert the Achievable Capability List (MDA's response to the PCL) and the Capability Assessment Report into the evolved SEP

Modify tie PCL to convey both a long-term vision of the objective BMDS and a more specifically defined capability needs.

Ms. TAUSCHER. In 2002, the Unified Command Plan (UCP) assigned STRATCOM responsibility for planning, coordinating, and integrating global missile defense op-

erations. However, mission execution remains the responsibility of each geographic combatant commander in their respective area of responsibility (AOR). Do you believe you currently have sufficient authority to "adjudicate" disputes that could arise between combatant commanders during missile defense operations?

General CHILTON. The current UCP does not give CDRUSSTRATCOM the authority to adjudicate disputes between combatant commanders during the execution of actual missile defense operations. To ensure we are prepared to conduct missile defense operations, I have sufficient authority to adjudicate disputes between combatant commanders during the planning process. During actual missile defense operations, the current UCP directs USSTRATCOM to provide warning and assessment of missile attack only.

Ms. TAUSCHER. How are you using your current authorities, as outlined in the UCP, to minimize disputes from occurring?

General CHILTON. JFCC IMD conducts collaborative planning and works with the Combatant Commands to (COCOMs) identify areas of disagreement. One effective avenue for dispute resolution is the Ballistic Missile Defense (BMDS) Management Structure. This structure with representatives from the COCOMs, Missile Defense Agency, and other partners work to prevent capability issues, and when disputes arise, resolve at an early stage. This has been successful to date in resolving issues. We continue to conduct wargames and exercises with Combatant Commanders to increase knowledge of missile defense capabilities and operations. We insert new knowledge and lessons learned into current operational procedures and plans.

Ms. TAUSCHER. We also understand that STRATCOM is in the process of developing a new global missile defense concept-of-operations. Can you provide us a general idea of the various options that you're examining?

General CHILTON. We are examining several command and control structures with varying degrees of centralization to address the globalization of ballistic missile defense. Our courses of action consider variations on support and command relationships for locations of launch of the ballistic missile, predicted impact and location of missile defense resources among others. We have held tabletop war-games to explore the issues associated with each option.

Ms. TAUSCHER. In 2004, STRATCOM conducted a Military Utility Assessment of the initial set of ground-based missile defense (GMD) capabilities deployed in California and Alaska to determine their militarily effectiveness. How confident are you in current GMD system capabilities?

General CHILTON. We assess that the BMDS can defend the homeland against a limited North Korean ballistic missile attack.

Ms. TAUSCHER. Are there areas where you believe improvements need to be made?

General CHILTON. The military utility assessment process is continuously maturing the product. The increased number of completed tests, with a commensurate increase in operational realism, has increased our ability to understand and assess the system's performance and military utility. Continued emphasis on validating our models and simulations will enhance our confidence in test results. Additionally, the warfighter-developed Operational Readiness & Acceptance (OR&A) process has improved the integration of warfighter test and exercise objectives in the BMDS test program.

Ms. TAUSCHER. Do you have any plans to conduct another Military Utility Assessment of the GMD system in the near future?

General CHILTON. The Military Utility Assessment (MUA) of the GMD is an iterative on-going process. The 2008 MUA is currently in development.

Ms. TAUSCHER. The House-approved FY 2008 defense authorization bill contains a provision establishing a strategic commission to evaluate U.S. strategic posture for the future, including the role that nuclear weapons should play in the national security strategy. What key questions should the commission consider?

Mr. D'AGOSTINO. In addition to the seven specific questions identified in the legislation, other key questions the commission should consider include:

- What are the allied perceptions of U.S. stockpile reductions? To what degree could substantial reductions call into question the viability of the U.S. extended deterrent to the point allies may decide to develop then own nuclear forces as a result?
- What is the status of foreign nuclear weapons capabilities and the possible threat to U.S. national security threat this may pose?
- What are the specific nonproliferation impacts, if any, of modest reductions of U.S. nuclear forces and the nuclear stockpile?
- What are the long-term national security consequences of maintaining an aging nuclear stockpile absent underground nuclear testing?

Ms. TAUSCHER. Do you see any risks to the U.S. moving lower than the Moscow Treaty's specified range of 1700 to 2200 operationally deployed warheads? In your estimation, what is the proper range for operationally deployed warheads to aim for by the end of the next decade (2020)?

Mr. D'AGOSTINO. The Department of Energy provides the Department of Defense with the number of weapons required to meet national security requirements. We remain committed to maintaining the smallest number of nuclear weapons consistent with our national security requirements. The Department of Defense established security requirements for the size and composition of the nuclear stockpile and operationally deployed forces.

Ms. TAUSCHER. Would a decrease in operationally deployed warheads to range of 1,000 to 1,200 substantially change the investment required to maintain our nuclear arsenal?

Mr. D'AGOSTINO. Yes. The degree of potential costs could vary greatly. The answer to this question is highly dependent on the types of warheads in the stockpile (i.e., which Cold-war, legacy weapons versus refurbished modern replacement warheads) and the degree to which the nation commits to a responsive infrastructure to support a larger nuclear weapons stockpile with multiple types and spares, or fewer types and a build-as-needed capability.

The President has provided a vision for the future that is focused on achieving the smallest stockpile consistent with our national security needs. Consistent with this vision the NNSA in conjunction with the Department of Defense (DOD) are working to achieve a level of 1,700 to 2,200 operationally deployed strategic nuclear weapons (ODSNW) by 2012. In addition to these ODSNW weapons, there is an additional quantity of weapons that are kept by DOD for augmentation. Without a Congressionally-supported stockpile transformation plan, the United States will continue to manage technical risks associated with an aging stockpile of legacy nuclear weapons, and the geopolitical uncertainties of the years ahead, by maintaining the large inventory of reserve weapons to backup the ODSNW quantity. Cost savings for a force of 1,000 to 1,200 ODSNW would be dependent on the ability to reduce the total size of the stockpile, including the large inventory of reserve weapons that are kept for augmentation purposes.

Achievement of a modern, responsive infrastructure and production of RRWs are two means of achieving additional reductions in the total stockpile size that could lead to cost savings. The RRW designs will provide more favorable reliability and performance margins than the current stockpile of legacy nuclear warheads. Additionally, RRWs will make nuclear weapons safer and more secure against unauthorized use by incorporating state-of-the-art security that cannot be retro-fitted into the older legacy nuclear weapons. This position has beers clearly articulated by the Secretaries of Defense, Energy and State in their joint statement titled "National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century", dated July 2007.

Ms. TAUSCHER. What risks do you see, if any, in pursuing an "LEP only" strategy, as opposed to proceeding with the reliable replacement warhead?

Mr. D'AGOSTINO. There are risks associated with use control, safety, reliability, and the ability to certify without nuclear testing.

One very important area of risk in the pursuit of only an LEP approach is the limitation on options that are available for including enhanced surety features. For example, limitations exist for modifying legacy systems to include new use control features, changing conventional high explosive (HE) primaries to use insensitive HE, and adding fire resistance to help prevent spread of plutonium in accident environments. All of these options exist with higher margin RRW designs that are not constrained by optimized weight and volume trades that resulted in today's low-margin legacy weapon designs.

A second primary area of risk with pursuing only an LEP approach is associated with being able to reconstruct obsolete processes and/or materials for low margin legacy warheads that no longer exist in the production complex. Re-certification of legacy warheads undergoing an LEP will be complicated if materials in some designs cannot be manufactured, or if processes for original materials cannot be resurrected, such as the current difficulty being experienced on a material for the W76–1 LEP. This situation could require replacement of parts with new materials that were not in the original, tested design. Any variances from the original design would have to be carefully evaluated using the tools of stockpile stewardship. Without the ability to test the weapons to validate the results of simulations, greater uncertainty will result. Consequently, NNSA may not be able to certify that the weapon meets the high-reliability currently required by nuclear systems.

Last, each successive LEP on a weapon type or design change in a single LEP introduces uncertainties and risk either associated with slight changes in features

or in manufacturing process changes that cannot be avoided. What is not known is how sensitive the final performance of the warhead will be to these cumulative changes. Since the legacy warhead designs are fixed and complex, the designer does not have much latitude to increase margin and must accept these unknown uncertainties. Through multiple LEPs of the same warhead these uncertainties will increase and the confidence in the design is expected to diminish. For these reasons, the need for nuclear testing to validate warhead design variances introduced during LEPs cannot be completely ruled out.

Ms. TAUSCHER. How do decisions on future delivery systems (e.g., ICBM, bomber modernization) impact RRW capabilities and timelines? Conversely, how do RRW decisions influence development of future delivery systems?

Mr. D'AGOSTINO. RRW is intended as a replacement for weapons currently in the stockpile. In its inception, RRW–1 was intended to be a replacement for a portion of the warheads deployed on the Trident SLBM. Similarly, should the RRW concept be eventually approved and advanced, an RRW variant could be an option for a B61 gravity bomb replacement.

Implications for future delivery systems are best addressed by the Department of Defense. That said, while either RRW options or existing warheads could provide viable candidates, RRW systems could offer advantages in concert with long-term reliability and enhanced safety and security.

Ms. TAUSCHER. The House-approved FY 2008 defense authorization bill contains a provision establishing a strategic commission to evaluate U.S. strategic posture for the future, including the role that nuclear weapons should play in the national security strategy: What key questions should the commission consider?

Secretary VICKERS. There are four major questions that are likely to form the basis of our own posture review, and obtaining the commission's perspective on these framing questions would be useful. The four questions are:

1) What is the current and likely future security environment?

2) What policies are required to meet our security goals in those environments?

3) What nuclear forces are required to carry out these policies?

4) What infrastructure is required to develop and sustain these nuclear forces?

Ms. TAUSCHER. What has changed in our security environment since the last Nuclear Posture Review (NPR) that should be emphasized in the strategic commission?

Secretary VICKERS. The efforts of states of concern and non-state actors to obtain WMD and the means to deliver them have intensified since the last NPR. The discovery of the wide-reaching proliferation network run by A.Q. Khan is especially troubling. North Korea's nuclear test of October 2006 and declared acquisition. of nuclear weapons raise the prospects that North Korea will have a number of nuclear weapons and the means to deliver them. The ongoing modernization of Russian and Chinese strategic forces is also a matter of concern that will have to be carefully monitored.

Ms. TAUSCHER. What do you believe are the security threats with the greatest implications for our strategic posture, policies, and capability investments?

Secretary VICKERS. As the President has stated, the proliferation of nuclear weapons poses the greatest threat to our national security. Nuclear weapons are unique in their capability to inflict instant loss of life on a massive scale. For this reason, nuclear weapons hold special appeal to rogue states and terrorists. The efforts of states of concern and non-state actors to obtain nuclear weapons and other forms of WMD, as well as the means to deliver them, have intensified since the last NPR. The discovery of the wide-reaching proliferation network run by A.Q. Khan is especially troubling. North Korea's nuclear test of October 2006 and declared acquisition of nuclear weapons raise the prospects that North Korea will have a number of nuclear weapons and the means to deliver them. North Korea and Iran are also of particular concern because of the demonstrated willingness of each to transfer sensitive weapons technology to others, their efforts to develop ballistic missiles of ever greater ranges, and their willingness to sponsor groups that engage in terrorism. The ongoing modernization of Russia's and China's strategic forces must also be taken into account when developing our own strategic posture, policies, and capability investments.

Ms. TAUSCHER. What role would RRW play in the nation's overall strategic deterrence objectives, particularly given investments in a conventional PGS capability?

Secretary VICKERS. To meet the needs of a more complex security environment, the 2001 Nuclear Posture Review envisioned a more flexible New Triad that consists of strike systems, nuclear, non-nuclear, and non-kinetic; defenses, both active and passive; and a responsive infrastructure, supported by robust planning, intelligence and command and control capabilities. The United States has made great strides

in developing and deploying both very advanced conventional weapon systems and missile defenses.

Over tune, the development and deployment of these systems may further reduce U.S. reliance on nuclear weapons for selected deterrence-related objectives and some strategic targets. However, for the foreseeable future, advanced conventional weapons and missile defenses will not decrease the need for nuclear capabilities. Both advanced conventional weapons and missile defenses can enhance deterrence, but the ability to deter rests ultimately and fundamentally on the availability and continued effectiveness of U.S. nuclear forces. The United States will need to maintain a nuclear force, though smaller and less prominent than in the past, for the foreseeable future.

Our long-term goal is to rely more on a revived nuclear weapons infrastructure and less on reserve warheads in the stockpile to respond to unforeseen events. However, until we are confident that we have the capability to respond to unexpected developments by producing nuclear weapon components in sufficient quantities, we will need to retain more reserve warheads than otherwise would be desired to hedge against technical problems or adverse geopolitical changes.

The Reliable Replacement Warhead (RRW) will be key to sustaining confidence in the U.S. nuclear stockpile. Moreover, once the RRW is deployed in significant numbers as replacements for low-margin-of-error legacy warheads, some or all of the reserve warheads retained in the stockpile for reliability purposes can be retired and dismantled without incurring significant risk.

Many questions regarding the future nuclear stockpile and nuclear force cannot be answered with precision today. The answers will depend on knowledge gained by further work on programs such as RRW, by efforts to modernize the nuclear warhead infrastructure, and by closely watching emerging trends around the world. Completion of the RRW Phase 2A Design Definition and Cost Study will provide cost estimates to develop, produce, and deploy replacement warheads. This will form the basis of a decision whether or not to seek Congressional authorization and funding to begin RRW engineering development and to refine future plans.

Ms. TAUSCHER. In testimony before the Senate Armed Services Committee last year, your predecessor, General James Cartwright, said his priority for missile defense was to focus greater attention and resources on the threat from short-and medium-range ballistic missiles. Do you share General Cartwright's view that we need to place greater priority on countering the threat from short-and medium-range ballistic missiles?

Secretary VICKERS. The most prominent threat we face today comes from rogue nations with large arsenals of short- and medium-range ballistic missiles. These nations view their arsenals as a means to coerce and intimidate their neighbors, and deny freedom of action to western coalition forces. With regard to short- and medium-range missiles that threaten our friends and allies, we must continue to strengthen our defenses against these threats.

While building capabilities against short- and medium-range ballistic missiles should be a near-term priority, we cannot afford to ignore the growing long-range threat from rogue nations. Both North Korea and Iran are working to develop longer-range ballistic missiles as well as space launch capabilities, which are adaptable for use as inter-continental ballistic missiles. We know that North Korea is a leading proliferator of ballistic missile technology, and Iran is one of its main customers. We must continue to develop capabilities to counter these threats, and to improve them over time to ensure we stay ahead of the threat.

Ms. TAUSCHER. Has the concept of strategic deterrence changed since the end of the Cold War? If so, how?

Secretary VICKERS. Strategic deterrence is as valuable today as it was at the dawn of the atomic age over 50 years ago. However, the United States' approach to strategic deterrence has changed to meet the unique challenges of the 21st Century.

During the Cold War, our greatest security concern was the Soviet Union. Potential threats from China and regional states such as North Korea were considered lesser-included cases that could be addressed by the same capabilities deployed to counter the Soviet Union. Today, the global security environment is radically different. The primary national security challenges now facing the United States is the nexus of violent extremists and regional states of concern that possess or seek to attain weapons of mass destruction (WMD). However, China's modernization and expansion of its nuclear force is also a concern. In addition, Russia's modernization of its large nuclear force, including the world's largest non-strategic nuclear arsenal, and its robust infrastructure, remains a security concern. Despite these dangerous challenges, the United States has reduced its strategic nuclear weapons stockpile by

80% since the height of the Cold War, and its non-strategic stockpile by over 90% since 1991.

Although not suited for every 21st Century challenge, nuclear weapons remain an essential element in modern strategy. Nuclear forces continue to represent the ultimate deterrent capability that supports U.S. national security. Extended deterrence is key to U.S. alliances, both in NATO and, in Asia, assuring allies and friends of the credibility of U.S. security commitments. U.S. nuclear weapons deter potential adversaries from the threat or use of weapons of mass destruction against the United States, its deployed forces and its allies and friends. In the absence of this "nuclear umbrella" some non-nuclear allies might perceive a need to develop arid deploy their own nuclear capability.

Ms. TAUSCHER. What should the U.S. nuclear strategy be if deterrence is an outdated approach? What implications does this have for the size and composition of the future U.S. nuclear force?

Secretary VICKERS. Deterrence is as important today as it was 50 years ago. U.S. nuclear forces continue to be the ultimate deterrent to adversaries who would use WMD against the United States, its forces, allies, or friends. Furthermore, through extended deterrence, the U.S. assures allies and friends of the credibility of U.S. security commitments and obviates the need for them to develop their own nuclear capability.

Force sizing methodology during the Cold War was based primarily on a strategic conflict with the Soviet Union: Today, however; force sizing is based on the abilities of the operationally deployed forces, the force structure, and the nuclear weapons infrastructure to meet the spectrum of political and military goals. This includes present and unforeseen technical or geopolitical developments.

The United States has adapted its nuclear force size and composition to meet modern security challenges. The United States has reduced its strategic nuclear weapons stockpile by 80% since the height of the Cold War, and its non-strategic stockpile by over 90% since 1991. In addition, we have significantly reduced our nuclear forces by taking four ballistic missile submarines out of strategic service, retiring all Peacekeeper ICBMs, removing 50 Minuteman III ICBMs from alert, converting the B–1 bomber fleet to a purely conventional force, and taking the Advanced Cruise Missile out of service.

Force sizing is also guided by the challenges facing the nuclear weapons infrastructure. The infrastructure has atrophied and U.S. nuclear weapons. are maintained well beyond their design life. The United States, in fact, is now the only nuclear weapons state that does not have the capability to produce a new nuclear warhead. The United States must hedge its nuclear force size and composition to address these technical and geopolitical realities.

Ms. TAUSCHER. What roles do STRATCOM, OSD Policy, and NNSA have in the National Cyber Initiative? What do you see as the key issues in the cyber arena?

Secretary VICKERS. As the Nation becomes more networked, new partnerships will develop as a result of the common need for security across the Nation. The Comprehensive National Cybersecurity Initiative (CNCI) recognizes these dependencies and assigns order and purpose to the stakeholders and their particular areas of responsibility. USSTRATCOM's mission is to direct network operations and defense, while deterring adversaries. OSD Policy defines and has broad oversight of Departmental roles and responsibilities as well as interdependencies as prescribed by law. NSA, true to the national cyber security strategy and Presidential order, is not only the national manager for National Security Systems, but also assesses cyber threats from abroad.

Cybersecurity is of critical importance because of the tremendous capabilities and potential vulnerabilities afforded by the nation's reliance on information and the information technology infrastructure. It is critical that we address not only DOD cyber threats, but the threats that loom over the nation as a whole. The National Strategy to Secure Cyberspace is a document of elemental importance in the security of this country, and the cyber initiative recognizes that DOD agencies and federal departments play a separate but complementary role. The Cyber Initiative codifies these relationships and empowers us to work jointly to safeguard the country's "nervous system." We fully recognize that we must deal with this problem not just in the DOD, but broadly across the entire range of the Federal sector. Because we are embarking on a relatively new effort—one to protect an ephemeral but indispensable national asset—the CNCI is a major step in an ongoing iterative effort. As DOD and other federal sectors improve their collective security postures, we will gain a heightened understanding of the threats, the degree to which our efforts are mitigating those threats, and the enhancements we must make to instill integrity and resiliency into national cyberspace.

Ms. TAUSCHER. Do you see any risks to the U.S. moving lower than the Moscow Treaty's specified range of 1,700 to 2,200 operationally deployed warheads? In your estimation, what is the proper range for operationally deployed warheads to aim for by the end of the next decade (2020)?

Secretary VICKERS. Any consideration of moving to lower levels than currently envisioned in the Moscow Treaty must carefully take into account the need to retain the ability to respond to technological, operational, and geo-political risks in a timely manner. The Administration has not yet identified any lower range for operationally deployed warheads in 2020; this may be determined in the upcoming Nuclear Posture Review.

Ms. TAUSCHER. What role did OSD Policy play in the planning for the attempted intercept of the nonresponsive satellite?

Secretary VICKERS. OSD Policy supported the Department's coordination and decision-making process, and facilitated the interface between the Department, the National Security Council and other U.S. Government Departments and Agencies. In this context, OSD Policy supported the Secretary of Defense in his capacity as one of the President's national security advisors. OSD Policy facilitated legal analysis to ensure the engagement was consistent with international agreements and legal obligations, supported the development of diplomatic and public affairs plans, and supported military and diplomatic exchanges with the international community.

Ms. TAUSCHER. What is our military's response posture? For example, what would be our response if a military communications satellite like Wideband Global System were jammed?

Secretary VICKERS. National space policy states that the United States considers space capabilities vital to its national interests and views purposeful interference with its space systems as an infringement on its rights. Consistent with this policy, the United States will take those actions necessary to protect its space capabilities, respond to interference, and if necessary, deny adversaries the use of space capabilities hostile to U.S. national interests.

When interference with a satellite system is detected, the first step is to properly characterize and attribute the interference event. If the interference is determined to be purposeful and the source of the interference can be attributed, a broad range of options will be considered to mitigate or eliminate the interference threat depending on the level of hostilities and the source of the interference. During peacetime, diplomatic and/or regulatory measures will normally be used initially to attempt to eliminate the interference. During hostilities, a broader range of options to include military response will be considered.

The Department of Defense continues to work with its interagency partners to improve the U.S. Government's ability to respond rapidly to purposeful interference events. The key is to continue to improve our space situational awareness capabilities. Space situational awareness provides indications and warning of hostile activities, enables real time assessment and attribution of purposeful interference, and is fundamental to our ability to respond to purposeful interference and protect our vital space interests.

Ms. TAUSCHER. Please provide an update on the status of missile defense negotiations with Poland and the Czech Republic. When are we likely to have signed and ratified agreements from Poland and the Czech Republic?

Secretary VICKERS. We have now had six rounds of negotiations with Poland on an agreement to base a groundbased missile defense interceptor site in Polish territory. These sessions have been productive and we have made a great deal of progress on a draft text. Only a few major issues remain.

Poland's position is that U.S. assistance in modernizing Polish armed forces is an important component of agreeing to base the interceptors on its soil. Secretary Rice and Polish Foreign Minister Sikorski agreed in February that BMD negotiations and security assistance talks would proceed on a "separate but parallel" basis. Since then, we have held separate talks on both the MD basing agreement and security assistance. The United States is committed to working with Poland to analyze priorities for the Polish military and determine the best way to improve Poland's capabilities as a NATO ally. As we make progress, in this area, we are confident we will also make further progress on the BMD agreement. We hope to have the BMD agreement signed and ratified in the next few months.

In parallel, we have also had six rounds of separate negotiations with the Czech Republic on an agreement to base a missile defense tracking radar in Czech territory. These talks have made even greater progress and we are in the process of resolving a small number of drafting issues that will allow us to finalize the draft agreement text. We are hopeful that we will have a signed agreement in the coming weeks, at which point it will likely be submitted to the Czech parliament for ratifi-

cation. The Czechs themselves are unsure how long the ratification process may take.

Ms. TAUSCHER. On February 1, 2008, the Polish Foreign Minister stated that the United States had agreed in principle to provide Poland additional "security guarantees" in exchange for hosting the proposed interceptor site. What types of additional security guarantees is the United States considering providing to Poland?

Secretary VICKERS. Poland's position is that U.S. assistance in modernizing Polish armed forces, especially air defenses, is an important component of agreeing to base the interceptors on its soil. Polish government officials tell us that this aspect is critical because they must be able to make the case to the Polish public that hosting U.S. missile defense assets increases Poland's security. They have asked for military assistance and an additional bilateral security arrangement with the United States.

The U.S. position is that NATO Article V is the cornerstone of our security relationship and that there is no stronger guarantee, as the United States takes its Article V obligations very seriously. Therefore we are not considering additional security guarantees for Poland. However, the United States has committed to assisting Poland with the modernization of its armed forces. We are working with Poland to analyze priorities for the Polish military and determine the best way to improve Poland's capabilities as a NATO ally. This process will take a number of months, and should result in a plan for effective and economical means to help Poland modernize its forces.

Secretary Rice and Polish Foreign Minister Sikorski agreed in February that BMD negotiations and security assistance talks would proceed on a "separate but parallel" basis. Since then, we have held separate talks on both the missile defense basing agreement and security assistance.

Ms. TAUSCHER. Please provide an update on discussions with NATO. To what extent has NATO increased its focus and investment in territorial missile defense? To what extent has STRATCOM engaged with NATO on command and control (C2) issues and integration of C2 systems?

Secretary VICKERS. At the 2007 NATO Defense Ministerial, the Alliance tasked further work in analyzing the political and military implications of territorial missile defense. Specifically, the Alliance directed that the U.S. proposal to place long-range missile defense assets in Europe be taken into account as part of the analysis. We are confident that the April 2008 NATO Summit in Bucharest will result in further positive developments along these lines.

Selected NATO member states are making investments in missile defense that could be useful for territorial defense. NATO members have invested over €700 million in the Active Layered Theater Ballistic Missile Defense (ALTBMD) program. Together with their investments in PATRIOT systems, ALTBMD could provide point defense for European critical infrastructure and population centers. Italy and Germany are co-developing with the U.S. the Medium Extended Air Defense missile defense system. Other NATO allies have shown interest in equipping their surface combatants with Aegis Standard Missile-3 sea-based interceptors: These capabilities could provide our NATO allies with territorial defense capabilities, as well as deployable forces for out-of-area coalition warfare.

STRATCOM, via its Joint Force Component Commander for Integrated Missile Defense, has conducted a series of multi-lateral ballistic missile defense exercises to explore coalition missile defense operations. Joint Project Optic Windmill/Alliance is one such exercise and is part of a collection of Global Integrated Missile Defense training events. These exercise events explore the U.S. Ballistic Missile Defense System (BMDS) with NATO playing a major role. In the exercises, NATO introduces elements of the future Active Layered Theatre Missile Defense (ALTBMD), and NATO C2 systems, together with the national Theatre Ballistic Missile Defense contributions to the Alliance, using both NATO's Combined Joint Task Force (CJTF) and Response Force (NRF) concepts. These types of events offer a unique environment to explore future capabilities, evaluate command and control options, and refine tactics, techniques and procedures.

Ms. TAUSCHER. What would be the key command and control challenges associated with a European missile defense site? To what extent have STRATCOM and other combatant commanders begun to plan to operate a European missile defense site?

Secretary VICKERS. Some of the key challenges for command and control of the European missile defense sites include establishing supported and supporting relationships, weapons release authority, and developing processes for planning, integrating and coordinating combined missile defense operations. These challenges are a natural part of the evolution of missile defenses. The Unified Command Plan tasks USSTRATCOM with leading a collaborative planning process that includes providing global ballistic missile defense solutions. STRATCOM, via its Joint Force

Component Commander for Integrated Missile Defense, is already leading an effort to gain Combatant Commander agreement on a series of basic principles to support a global ballistic missile defense concept of operations that will include European missile defense capabilities. The basic principles will be agreed to in 2008 and will be used to develop and finalize the concept of operations.

QUESTIONS SUBMITTED BY MR. EVERETT

Mr. EVERETT. Am I correct in saying on the new AEHF that the terminals are not synchronized with it, or do you know?

General CHILTON. Regrettably, AEHF terminal synchronization remains a challenge. Only about 80 Secure Mobile Anti jam Reliable Tactical Terminals (SMART–T) will be available when AEHF is ready for operations in FY10. Strategic terminals will not be fielded in sufficient quantities to transition networks from Low Data Rate MILSTAR capability to Extended Data Rate AEHF capability until approximately 2015.

To ensure the Services address this issue, USSTRATCOM emphasized terminal synchronization within our #1 Integrated Priority List item for Fiscal Years 2010-2015. We are also working with the Network Centric Capabilities Portfolio Manager to include terminal synchronization language in the Joint Programming Guidance. We are also closely monitoring terminal and space programs to leverage programmatic efficiencies that improve synchronization efforts.

Mr. EVERETT. Please provide STRATCOM's recommendation on the revised High Altitude Transition plan and U–2 retirement plan, year-by-year, based on STRATCOM's Intelligence, Surveillance and Reconnaissance (ISR) gaps analysis.

General CHILTON. STRATCOM is currently conducting its assessment of the revised High Altitude Transition (HAT) plan through the Defense Department and analyzing courses of action necessary to maintain airborne ISR capability for the warfighter. Our 2008 assessment updates a similar study completed by STRATCOM in 2006 and will address specific combatant command concerns associated with the transition. My intent is to identify DOD operational risk and potential mitigation options through the end of Fiscal Year 2012. The findings will be presented to the Joint Requirements Oversight Council in April 2008. STRATCOM continues to support active management and assessment of the HAT plan to deliver capabilities while limiting DOD risk associated with U–2 divestiture.

Mr. EVERETT. The U–2 Optical Bar Camera (OBC) provides a broad area search capability to support treaty monitoring and COCOM requirements. With no plans to migrate the OBC over to Global Hawk, how will the COCOM requirement for a broad area search capability be satisfied?

General CHILTON. USSTRATCOM and regional combatant commanders recognize the operational value the U–2's OBC capability provides. However, there is also an understanding of the value in transitioning to the next generation of digitized, broad-area, space and airborne imaging capabilities, requiring fewer processing resources, but with faster product delivery. STRATCOM will continue to examine Global Hawk and enterprise-wide capabilities to ensure Combatant Commander ISR requirements are satisfied. The requirement for releasable, broadarea imaging capabilities is part of a STRATCOM led assessment of the Air Force's High Altitude Transition (HAT) plan scheduled for completion in April 2008. The divestiture of the U–2 aircraft will continue to be actively managed to ensure that all critical requirements are met throughout the transition to the Global Hawk.

Mr. EVERETT. Who are the planned users of TSAT and what impact does the $4 billion reduction to TSAT across the Future Years Defense Plan (FYDP) have on these users?

General CHILTON. TSAT is expected to support a variety of strategic and tactical users, ranging from the President down to the individual small combat unit. Users include command centers servicing all Combatant Commands/Services/Agencies; Army, Marine, Navy, and Air Force units and platforms; various unmanned aerial systems; and special operations forces.

The $4 billion reduction extends reliance on lower capacity, non-network centric, and unprotected legacy systems; potentially creates an unintended gap in survivable and protected communications for nuclear command and control in the 2020 timeframe; delays the exponential increase in wideband capacity that our geographic combatant commanders are demanding for transporting intelligence, surveillance, and reconnaissance data; and postpones delivery of antijam, low probability of intercept, and networked communications-on-the-move capabilities for our deployed warfighters.

We are currently working with OSD and all of our mission partners to determine the appropriate investment strategy for military SATCOM. We are analyzing the contributions from the entire wideband and protected satellite communications portfolio to determine the architecture that best meets the warfighter's future SATCOM requirements.

Mr. EVERETT. What is your assessment of the synchronization between the launch of military SATCOM systems and the fielding of compatible user terminals? How are you ensuring that user terminals are fielded to keep pace with new capabilities introduced on WGS(already on-orbit), AEHF (I QFY09), and the Navy's MUOS (FYI 10)?

General CHILTON. Terminal synchronization has been a USSTRATCOM priority for the past several years. While the Services have made some progress on aligning terminal fielding schedules with satellite launches, synchronization remains a challenge. Terminals currently lag satellite deployment by 2-5 years, essentially expending up to a third of the satellite's lifetime while the user population waits for terminals to be fielded:

To ensure the Services address this issue, USSTRATCOM emphasized terminal synchronization within our #1 Integrated Priority List item for Fiscal Years 2010-2015. We are also working with the Network Centric Capabilities Portfolio Manager to include terminal synchronization language in Joint Programming Guidance. We are also closely monitoring terminal and space programs to leverage programmatic efficiencies that improve synchronization efforts.

Mr. EVERETT. What roles do STRATCOM, OSD Policy, and NNSA have in the National Cyber Initiative? What do you see as the key issues in the cyber arena?

General CHILTON. USSTRATCOM is the lead Combatant Command for Cyberspace supporting DOD's National Cyber Initiative tasks including operation and defense of the Global Information Grid, development of capabilities to increase the security of our networks; and collaboration with USG agencies and others to bolster cyber security.

Key issues in the cyber area are situational awareness, attribution, supply chain vulnerabilities and the development of a professional work force.

Mr. EVERETT. Can you provide a description of the military requirements for conventional Prompt Global Strike (PGS) and STRATCOM's strategy for satisfying those requirements?

General CHILTON. STRATCOM requires a capability to deliver prompt, precise, conventional kinetic effects at intercontinental ranges against strategic, high-value targets in denied territory. The Department's strategy includes: 1) focus current PGS Defense-wide account investments on key PGS enabling technologies, 2) leverage existing capabilities and ongoing demonstrations in the areas of propulsion and guidance, 3) transition from technology application to operationally relevant and realistic flight demonstrations, 4) work with the Services to develop operational concepts and deployment plans, and 5) align all described efforts towards fielding a capability as soon as possible.

Mr. EVERETT. What are the leading candidate system solutions for fulfilling STRATCOM PGS mission requirements that Congress should invest in and why?

General CHILTON. The Department is currently reviewing the initial results of the Prompt Global Strike Analysis of Alternatives. This joint study lead by the Air Force has provided information on a range of solutions that address Prompt Global Strike requirements. The analysis confirmed investments are needed in advanced aero vehicles and weapons supporting a range of basing concepts. We are, working with USD (AT&L) and the Services to focus the defense-wide account to deliver an initial capability at the earliest possible opportunity. We are also focused on maturing the key technologies necessary to develop and deliver an operational capability quickly.

Mr. EVERETT. What utility does the Army's Advanced Hypersonic Weapons (AHW) Technology Demonstration program provide for PGS?

General CHILTON. The AHW technology demonstration has the potential to advance technology in the area of advanced aerobodies, thermal protection materials and systems, and guidance, navigation, and control. However its objectives must be clearly and better integrated with DOD's prompt global strike technology path forward and support planned Service demonstrations.

Mr. EVERETT. Does STRATCOM have any recommendations for consideration by Congress on how best to apportion the $100M set-aside in the FY08 defense wide account?

General CHILTON. In accordance, with the National Defense Authorization Act for Fiscal Year 2008 STRATCOM has provided USD (AT&L) the military requirements for the Prompt Global Strike systems. These requirements will be used to inform the obligation and expenditure plan currently in coordination with USD (AT&L).

The apportionment of the $100M should focus on the development of a viable demonstration which leads to a fielded capability by no later than 2014.

Mr. EVERETT. How much finding to support the conventional PGS mission area are you requesting for this next year? How will those hinds be apportioned?

General CHILTON. The President's budget request contains $117M for continued progress to develop a PGS capability. The funding remains in a Defense-wide RDT&E account under the control of USD (AT&L). The budget request supports continued investment in critical enabling technologies and preparation and execution of PGS demonstrations by DARPA and the Services. Our objective is to focus the investment to deliver an initial PGS capability at the earliest possible opportunity.

Mr. EVERETT. 1(a). What roles do STRATCOM, OSD Policy, and NNSA have in the National Cyber Initiative?

Mr. D'AGOSTINO. 1(a). Currently NNSA does not have an official role (*a seat at the table*) in the National Cyber Initiative, however we are working with DOE OCIO (*does have a seat at the table*) to understand which requirements from the initiative are to be implemented by DOE and NNSA. I cannot speak for STRATCOM and OSD.

Mr. EVERETT. 1(b). What do you see as the key issues in the cyber arena?

Mr. D'AGOSTINO. 1(b). There are a number of issues to be considered when evaluating the cyber arena; however, I believe that all of these issues can be summed up into four key areas: a) Lack of clear Public Policy and implementable standards to include public policy is normally ambiguous and many of the industry standards are costly to implement; b) Challenge of keeping pace with an ever-changing threat; c) Inability to provide a real-time technical collaboration solution when threats and vulnerabilities are identified to include the ability to collaborate with other sites when an incident occur; and d) education of the general workforce, to include our technical experts.

Mr. EVERETT. What roles do STRATCOM, OSD Policy, and NNSA have in the National Cyber Initiative? What do you see as the key issues in the cyber arena?

Secretary VICKERS. As the nation becomes more networked, new partnerships will develop as a result of the common need for security across the nation. The Comprehensive National Cybersecurity Initiative (CNCI) recognizes these dependencies and assigns order and purpose to the stakeholders and their particular areas of responsibility. USSTRATCOM's mission is to direct and defend computer network operations. OSD policy defines broad Departmental roles and responsibilities as well as interdependencies as prescribed by law. The National Security Agency (NSA), true to the national cyber security strategy and Presidential order, is not only the national manager for National Security Systems, but also assesses cyber threats from abroad.

Cybersecurity is of critical importance because of the tremendous capabilities and potential vulnerabilities afforded by the nation's reliance on information and the information technology infrastructure. It is critical that we address not only cyber threats to DOD, but the threats that loom over the Federal government as a whole. The National Strategy to Secure Cyberspace is a document of elemental importance in the security of this country, and the cyber initiative recognizes that DOD agencies and federal departments play a separate but complementary role. The Cyber Initiative codifies these relationships and empowers us to work jointly to safeguard the government's networks. Since we are embarking on a relatively new effort—one to protect an evolving but indispensable national asset—the CNCI is a major step in an ongoing iterative effort. As DOD and other federal sectors improve their collective security postures, we will gain a heightened understanding of the. threats, the degree to which our efforts are mitigating those threats, and the enhancements we must make to instill integrity and resiliency into national cyberspace.

Mr. EVERETT. Given the Congressional concerns in PGS for the last 2 years, have the various conventional PGS options been formally assessed as being policy and treaty compliant?

Secretary VICKERS. The Secretary of Defense and Secretary of State submitted a report to Congress on Conventional Trident Modification (CTM) in February 2007 addressing Congressional concerns. The report articulated mission types that both the Departments of Defense and State believe justify a Prompt Global Strike (PGS) system as a needed near-term capability, introduced a comprehensive assurance strategy for these long-range, conventionally-armed ballistic missiles, and provided the Department of State views on salient international issues associated with PGS. We have indicated that CTM, if deployed, would remain accountable and compliant with the START Treaty. Other PGS capabilities have not progressed sufficiently to be reviewed for compliance under START.

QUESTIONS SUBMITTED BY MR. REYES

Mr. REYES. The FY 2009 budget request delays delivery of all four THAAD fire units by varying degrees. STRATCOM and the other combatant commanders have noted that delivery of the THAAD system was one of their highest missile defense priorities. Where on STRATCOM's missile defense priority list do you currently place THAAD?

General CHILTON. Terminal defense and mobile active defense assets remain a high priority and are expressed as such in the current Prioritized Capabilities List. Per the Missile Defense Agency funds have been allocated to deliver all four THAAD fire units on schedule.

Mr. REYES. To what extent did MDA consult with STRATCOM and other combatant commanders prior to moving forward with its decision to delay the delivery of the THAAD fire units?

General CHILTON. The potential delivery delay of THAAD firing units was under consideration by MDA. However, MDA decided to allocate additional funds needed to restore fire units (#3 and #4) to maintain the original schedule. The MDA Director is readily available for consultation when such issues arise.

Mr. REYES. What is STRATCOM's requirement for THAAD? What is the total requirement for THAAD as requested by all Combatant Commanders?

General CHILTON. STRATCOM, with the other combatant commanders, participated in Joint Integrated Air and Missile Defense Organization-led Joint Capability Mix studies to provide initial recommendations for minimum THAAD force structure. This study can be presented to you in closed session by the Joint Integrated Air and Missile Defense Organization. This information will be combined with the Defense Planning Scenario-based Analytical Agenda efforts to further refine these requirements.

QUESTION SUBMITTED BY MR. THORNBERRY

Mr. THORNBERRY. Mr. D'Agostino, one of the things I would like to ask you to do for the record, since we have to go, is can you give us the potential disadvantages or concern of Stockpile Stewardship life-extension program only approach without RRW? I would like those listed up to us, you know, one through five or 10 or whatever it is. I think that helps us to make the balance.

Mr. D'AGOSTINO. Under a life-extension approach, current planning indicates that over the next 25 years all legacy warheads that remain in the stockpile will require extensive life extension programs (LEPs). These LEPs would be conducted to refurbish or replace existing nuclear and non-nuclear parts with the goal of extending the life of each warhead type for another 30 years. That includes nine different warhead types and the requirement to survey and maintain spares for each. The RRW approach reduces the number of types and enables new safety, surety, and security features.

One very important issue on the pursuit of only an LEP approach is the limitation on options that are available for including enhanced surety features. For example, limitations exist for modifying legacy systems to include new use control features, changing conventional high explosive (HE) primaries to use insensitive HE, and adding fire resistance to help prevent spread of plutonium in accident environments. All of these options exist with higher margin RRW designs that are not constrained by optimized weight and volume trades that resulted in today's low-margin legacy weapon designs.

A second primary issue with pursuing only an LEP approach is associated with being able to reconstruct obsolete processes and/or materials for low margin legacy warheads that no longer exist in the production complex. Re-certification of legacy warheads undergoing an LEP will be complicated if materials in some designs cannot be manufactured, or if processes for original materials cannot be resurrected, such as the current difficulty being experienced on a material for the W76–1 LEP. This situation could require replacement of parts with new materials that were not in the original, tested design. Any variances from the original design would have to be carefully evaluated using the tools of stockpile stewardship. Without the ability to test the weapons to validate the results of simulations, greater uncertainty will result. Consequently, NNSA may not be able to certify that the weapon meets the high-reliability currently required by nuclear systems.

Last, continued aging and each refurbishment activity on a weapon type introduces uncertainties either associated with slight changes in features or in manufacturing process changes that cannot be avoided. What is not known is how sensitive the final performance of the warhead will be to these cumulative changes. Since the legacy warhead designs are fixed and complex, the designer does not have much

latitude to increase margin and must accept these unknown uncertainties. Through multiple LEPs of the same warhead or multiple design changes in a single LEP these uncertainties will increase and the confidence in the design is expected to diminish. Worst case, if there are too many deviations from the test base, the uncertainty in the calculations may exceed the capability of NNSA to certify weapon reliability using simulations alone. For these reasons, the need for nuclear testing to validate warhead design variances introduced during LEPs cannot be completely ruled out.

Mr. THORNBERRY. What are the Department of Defense's roles and responsibilities in the Administration's new cyber security initiative? How is the Department of Defense organized for this mission? What are the legal and or policy obstacles to DOD fulfilling its roles and missions? What is the role of private industry since they own most of the infrastructure? In your opinion is there a "chilling effect" of not updating FISA by providing liability protection for businesses, and will this impede the DOD progress in this mission area? What technologies, processes and procedures are being considered to protect the privacy of U.S. citizens? How will you keep up to date with technology and technically savvy adversaries? What are the necessary work force skills for this initiative to be successful? What are the DOD gaps and strengths in this area? What training programs are in place or need to be developed?

Secretary VICKERS. DOD is responsible for supporting DHS and DNI in the implementation of the Comprehensive National Cybersecurity Initiative (CNCI). DOD is also leading, or co-leading, four of the twelve initiatives and one of the seven enablers. The Secretary has designated USD(P) as the lead coordinator for the Department with critical support being provided by ASD–NII, ASDHD&ASA, USD–I, Comptroller, and the Joint Staff. Currently, there are no policy issues or legal obstacles for DOD support to the CNCI. Work with private industry is identified in one of the initiatives, and is led by DHS. DOD defers to DNI for any detailed discussion on the topic of FISA issues but DOD's position is that the CNCI does not ask telecommunication firms to take any action that would expose them to legal liability. DOD is sensitive to any perceived privacy issues related to the deployment of technologies associated with CNCI. An overarching objective of the CNCI into protect Federal information systems, to include the protection of U.S. citizens' personal information that resides on these systems. The initiative addresses new technologies by making significant investments in cyber R&D and leap-ahead technology research to maintain U.S. technological advantages. DOD is recognized as the Federal leader in cyber defense capabilities and much of the groundwork that DOD accomplished is being leveraged for the Federal community. In order to achieve the cyber protection goals of the CNCI and DOD, one potential pitfall is lack of funding. The Training and Education initiative of the CNCI is focused on bringing together the various Departmental training programs, including college scholarship programs, to identify best-of-breed. DOD has a very robust training program in cyber security and the CNCI will try to broaden this approach across the Federal Government and the nation.

Mr. THORNBERRY. Has DOD identified specific programs and budget lines that are associated with this initiative? If so, please provide with this response. Are there additional program or budget requirements that have not been addressed? How will DOD manage this initiative within OSD/NSA/Services

Secretary VICKERS. Yes, the Department has established a specific program element (PE) code that will capture the Cyber Security finding throughout the Department. PE 0305103x is executable in all appropriations for the Information System Security Program and Military Intelligence Program budgets.

DOD does not anticipate making additional budget requests under the Comprehensive National Cybersecurity Initiative (CNCI) beyond those already identified in the President's budget submission.

DOD is managing the initiative as follows:

USD(P) is the DOD lead for the CNCI in support of an initiative that directs certain policy actions across the Federal government. USD(P) is DOD's policy lead and ASD(HD&ASA) is the focal point within USD(P).

ASD(NII)/DOD CIO is the Principal Staff Assistant (PSA) to the SecDef with respect to information assurance (IA) (cyber/computer network defense (CND)) activities. NII/CIO has played and continues to play a central role in helping bring the various DOD Components together to coordinate the DOD partnership in the CNCI as well as working with the OSD Comptroller and OMB to develop and subsequently justify the DOD (non-NIP) portion of the budget request. NII will play an oversight role as the Initiative evolves, as we do for other IA related activities in the Department to ensure the Components are executing according to plans.

USD(I) owns the MIP aspects of the DOD CNCI budget (either through NSA or DIA) which affords them an oversight responsibility as well. NII/CIO works very closely with USD(I) in this process.

Mr. THORNBERRY. How will you measure success? Does the program scale to maintain speed, processing, and bandwidth? What is your return on investment—how will you demonstrate value for the costs?

Secretary VICKERS. The Comprehensive National Cybersecurity Initiative (CNCI) provides the foundation for a national cybersecurity program that will enable the U.S. to fundamentally change the balance of power from one that currently favors cyber intruders and attackers over our network defenders to one more favorable to the U.S. national and economic interests. The Office of Management and Budget (OMB) requires measures that describe progress towards achievement of goals and efficiency in use of resources to make that progress. To this end, the Program Assessment Rating Tool (PART) methodology will be used to assess and improve program performance. Key parts of this process include the development of meaningful performance measures and the tracking of anticipated (or desired) targets over time through a structured review process. The Departments and Agencies involved in developing this program believe it will provide a much greater degree of cybersecurity throughout the Federal government and when fully implemented, across the nation. Only through the implementation of a comprehensive initiative will the United States realize the full benefit of an optimal cybersecurity solution.

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