[H.A.S.C. No. 114–38]

# HEARING

ON

# NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2016

AND

# OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

## COMMITTEE ON ARMED SERVICES
## HOUSE OF REPRESENTATIVES
ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

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SUBCOMMITTEE ON STRATEGIC FORCES HEARING

ON

# FISCAL YEAR 2016 BUDGET REQUEST FOR NUCLEAR FORCES

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HEARING HELD
APRIL 15, 2015

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# FISCAL YEAR 2016 BUDGET REQUEST FOR NUCLEAR FORCES

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
*Washington, DC, Wednesday, April 15, 2015.*

The subcommittee met, pursuant to call, at 3:30 p.m., in room 2118, Rayburn House Office Building, Hon. Mike Rogers (chairman of the subcommittee) presiding.

## OPENING STATEMENT OF HON. MIKE ROGERS, A REPRESENTATIVE FROM ALABAMA, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. ROGERS. Good afternoon. I want to call this hearing of the Strategic Forces Subcommittee of the House Armed Services Committee to order. And we are going to be called for votes at 4:30, so in order to make sure we can get plenty on the record in the way of questions, the ranking member and I have agreed to dispense with opening statements. And we would ask each of the witnesses to submit theirs for the record.

[The prepared statement of Mr. Rogers can be found in the Appendix on page 21.]

Mr. ROGERS. And we will go straight to questions after I introduce our distinguished panelists.

We have with us today the Honorable Robert Scher, Assistant Secretary of Defense for Strategy, Plans, and Capabilities, U.S. Department of Defense; Dr. Arthur Hopkins, Acting Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, U.S. Department of Defense; Vice Admiral Terry Benedict, Director of Strategic Systems Programs, U.S. Navy; and Major General Garrett Harencak, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, U.S. Air Force.

Mr. ROGERS. And with that, I thank the witnesses for being here. I really appreciate the time and energy it takes to prepare for these hearings, and it matters a lot. We appreciate you making the time for us.

[The prepared statements of Secretary Scher, Dr. Hopkins, Admiral Benedict, and General Harencak can be found in the Appendix beginning on page 23.]

Mr. ROGERS. And I'll recognize myself for the first round of questions. In the opening statement I submitted for the record, I mentioned a message to the force from then Secretary of Defense Hagel, which is in your binder. It is dated November of last year. And without objection I would like to enter that into the record. Hearing none, so ordered.

[The information referred to can be found in the Appendix on page 79.]

Mr. ROGERS. The letter is a remarkable statement of defense priorities, and it makes clear that the nuclear deterrence is the Nation's number one priority defense mission. We have seen this priority reflected in statements from many senior DOD [Department of Defense] officials, and I believe we have started to see that priority reflected in budget requests. We have also seen it in Secretary Carter's policy documents, including his guidance for employment of the force and readiness availability priorities.

Mr. Scher, from a policy perspective tell us why nuclear deterrence is the Nation's, quote, "highest priority defense mission," close quote, as Secretary Hagel stated in his letter to the force.

Secretary SCHER. Certainly, Chairman, be happy to.

So simply put, nuclear forces are critical to ensuring that we and our allies can effectively address threats, especially from nuclear states. That is the key focus. We believe that nuclear forces deter attack on the United States and our allies, and nuclear weapons are also critical to ensuring that adversaries don't think they can escalate out of a crisis if conventional forces aren't useful for them.

So it is imperative that we maintain the nuclear forces, that we maintain the deterrence, that these forces are credible, effective, reliable, and can be used in multiple options across a range of activities should this so happen. We still believe that the use of nuclear weapons is unlikely, but we are not willing to take the chance that it couldn't happen because the catastrophic consequences should it.

Mr. ROGERS. Dr. Hopkins, please take a minute to explain what the Department sees as the key investment priorities for the nuclear deterrence mission in fiscal year 2016 and beyond.

Dr. HOPKINS. Thank you, Mr. Chairman.

As noted in our written statements, I think you will see a fair amount of consistency there, the Department's priorities are for the sustainment and modernization of the complete triad of the full force. And that starts with the submarine force, the life extension program for the Trident II missile, and the bombers, the Long-Range Strike Bomber, as well as the cruise missile, Long-Range Stand-Off Missile.

Along with that, we also are partnered with the Department of Energy. It is very important that our programs be synchronized so that the delivery systems and the weapons arrive at the same time.

Mr. ROGERS. This will be for Admiral Benedict and General Harencak. In February, Admiral Haney told this committee that DOD spends less than 3 percent of its budget on nuclear forces, and that during the peak years of modernization only 5 to 6 percent of defense spending will go toward nuclear forces. To both of you, how should we be looking at this question of, quote, "affordability," of nuclear modernization given the priority DOD assigns to the nuclear deterrence mission?

Admiral BENEDICT. Yes sir. Thank you for the question.

Sir, I would submit that while the percentage of the defense budget is as you stated, 3 to 6 percent, I think that the leadership should be expecting from the United States Navy and the United States Air Force options to ensure that that money is effectively

spent. And to that, the United States Navy and the United States Air Force has been working the topic of commonality to ensure that, whatever resources we are provided, that those are utilized as efficiently as possible.

I would submit that as a response, sir.

General HARENCAK. Mr. Chairman, to add to that, as the United States Air Force modernizes and recapitalizes its two legs of the triad, every time we begin a process of looking at what to do, affordability is always the key aspect of what we are doing. To that end, we are—believe that we can have an affordable triad as long as we continue the great efforts we have been doing the past few years with the United States Navy and then leveraging the great innovation of our industry partners to make sure that we can have a safe, secure, and effective stockpile.

Mr. ROGERS. And let's stay with you, General. Why does the United States need the Long-Range Stand-Off weapon, the follow-on to the current Air-Launched Cruise Missile?

General HARENCAK. Well, thank you for that question. The ALCM is the Air-Launched Cruise Missile, it was a 1982 weapon with a 10-year service life. And it is a key aspect of our nuclear deterrent. It is a main priority focus of STRATCOM [U.S. Strategic Command]. And it gives us a unique capability to give the government and the President of the United States a wide range of options across the entire spectrum of conflict.

A cruise missile is a stand-off weapon, and much like every other aspect of human conflict, the nuclear deterrent option also needs a stand-off and a direct attack. And what that allows us to do is across the entire spectrum, across any possible scenario out there, to give options, however the President may decide to use those options, but it gives options where we could respond to a wide range of threats.

Specifically, the ALCM, as I already said, it is a 10-year lifespan and it is growing. So we have absolutely committed as the United States Air Force to providing an affordable long-range strike option which allows us to have wide-ranging capabilities across the entire spectrum of conflict. And certainly in the closed session we can talk about the very specific classified reasons why we will need that capability in A2/AD [anti-access/area-denial] environment.

Mr. ROGERS. And why do we need a nuclear-armed cruise missile if we have a penetrating bomber and the B61 nuclear gravity bomb?

General HARENCAK. Well, sir, simply because we need stand-off and we need direct attack in this particular mission set as the air-delivered portion of the triad. It creates opportunities for us. It vastly, vastly complicates a potential enemy's defenses. And most importantly, as I said, it gives options, options that we would perhaps someday wish we had if we don't pursue this.

As I said, ever since human conflict, we have had direct attack and we have had stand-off. And in this particular mission set is no different than any other mission set. We need that capability for our airmen that are going to be given a very difficult task in a number of highly important scenarios. We believe it is a capability, and so does Admiral Haney in STRATCOM, that we absolutely must fill.

Mr. ROGERS. Dr. Hopkins, would the Nuclear Weapons Council agree with that assessment?

And, Mr. Scher, would OSD [Office of the Secretary of Defense] Policy agree with it.

Dr. HOPKINS. Mr. Chairman, the Nuclear Weapons Council would agree with that.

Secretary SCHER. Absolutely. The only thing I would add on top of the excellent answer from my Air Force colleague is that we should not be in a position where the only option that we give the President to use the air leg of the triad is putting a piloted airplane over enemy airspace to drop a gravity bomb.

Mr. ROGERS. With that, I will yield to my friend and colleague from Tennessee, the ranking member, for any questions he may have.

Mr. COOPER. Thank you, Mr. Chairman. I appreciate your holding this hearing, and I look forward to the classified session to follow.

In the meantime, let me return to basics here. This hearing is really on the 2016 budget and the adequacy thereof, or not, for our nuclear forces. So isn't the first and most important point is we need at least the President's budget request, and nothing less will suffice?

Secretary SCHER. Sir, if I can answer, agreed, absolutely. I would say that is the case for the overall defense budget. We have been very clear that we need the President's budget request. We think it solves and fixes some of the problems that were created with sequestration that we are still trying to get out of. The nuclear enterprise is no different from any of those.

And especially because this budget reflects changes and increases to the nuclear enterprise budget that we put in as a result of the studies of the Nuclear Enterprise Review [NER], it is even more critical to make sure that we have the President's budget request for the sustainability of the current force and the modernization of the future force that we are committed to doing. Sequestration would be a disaster for the Defense Department, the strategy, but also especially the nuclear enterprise.

Mr. COOPER. Well, let me editorialize for a moment. The good news is it looks as if we will avoid the disaster you are describing and we will come in with a number slightly above the President's request. The bad news is we are pretending that OCO, overseas contingencies operations, will pay for that, which is off budget, which is like borrowed money, which is like a bandaid. So we really haven't fixed sequestration if we are not really paying for our nuclear forces, but pretending we are going to pay for our nuclear forces.

So that, I am afraid, is the situation we are in, but I don't want to get any of the witnesses in trouble by agreeing or disagreeing with me on that.

But let me note, I thought Dr. Hopkins' testimony was particularly well summarized, going through a number of the weapons programs and what the process of modernization involves. But on page 7 of Dr. Hopkins' testimony there are sentences that I think should be highlighted for the purposes of this hearing. This one should be noted for the record: Quote, "The Nuclear Enterprise Re-

view highlighted evidence of systemic problems in the strategic deterrent forces that threaten the future safety, security, and effectiveness of our nuclear forces." Wow. That is a heavy-duty sentence, and everybody who is aware of our nuclear enterprise should take that to heart.

Another sentence we need to focus on is this: The fact that the Nuclear Deterrent Enterprise Review Group [NDERG], chaired by Deputy Secretary of Defense Work, will be focusing attention and resources at all levels of the DOD on this essential mission. So the NER noted huge problems, the NDERG is going to fix them, hopefully with a little cooperation of the subcommittee and of Congress. But nothing is more important. As our Navy friends are always excellent at emphasizing their testimony, they usually lead with the importance of the nuclear enterprise here.

I don't want to go over too much dirty laundry, but there have been a sad litany of failures and problems in recent years, and we would hope that with this budget request going forward we will fix these problems.

Again, my purpose isn't to get any of the witnesses in trouble here, but I think we should have a heightened level of responsibility, because past witnesses may have mouthed the words, but somehow safe, secure, and reliable was not necessarily the result. If, in fact, there was only one wrench for three missile fields in the Plains States, and apparently that wrench had to be FedEx-ed from spot to spot, that is just probably one of the more visible examples of failure in the system, but there have been others.

Do any of the witnesses have recommendations for this subcommittee as to what we should focus on other than giving you enough money for your work?

Secretary SCHER. I will just take the opportunity to perhaps get myself in trouble, but nonetheless I think the money for the work, we appreciate the subcommittee and the full committee's support of the Defense Department's and the President's budget request.

And, in fact, to just put a finer point on the OCO [overseas contingency operations] discussion that you had, this plan, being able to plan, to be able to put in a systematic plan to put across budget years is critical for us. Stability and clarity and transparency of budget figures is important for us to be able to deal with not just this year, but future years. So we would ask, and I know we are working to try to get to a situation where we are not reliant on OCO to cover the funding gaps.

Mr. COOPER. Dr. Hopkins.

Dr. HOPKINS. In addition to the resources, both in fiscal year 2016 and over the sustained period, I think that your—you asked about what this subcommittee could do—your attention and your concern for the get-well plan in the aftermath of the Nuclear Enterprise Reviews is very helpful.

As you know, the Deputy Secretary is chairing this Nuclear Deterrent Enterprise Review Group, which is a sustained attention to the problem. And as far as the assistance, I think the attention from this group and the concern expressed for this group is helpful.

Mr. COOPER. Do you need any more help than that or would Congress just be getting in the way?

Dr. HOPKINS. Not that I can think of.

Mr. COOPER. Thank you, Mr. Chairman. I have no more questions at this time.

Mr. ROGERS. I thank the gentleman.

Chair now recognizes the gentleman from Alabama, Mr. Brooks, for 5 minutes.

Mr. BROOKS. Mr. Scher, the Congressional Budget Office has estimated the cost of maintaining nuclear weapons and delivery vehicles to be $348 billion over the next decade, or about $35 billion per year, including inflation. Do you agree with this figure?

Secretary SCHER. I don't have the exact figure for 10 years. We do extensive planning for the 5-year plan, but about 3 percent of the budget is what we see for this over this fiscal year, and then I think we get up to right around 3 percent, maybe a little bit more, the peak is at fiscal year 2020 in the plan. So I would have to take a look at the specific numbers to make sure that they track with ours. We have looked at in depth the 5-year development plan versus the 10-year.

Mr. BROOKS. And, Mr. Scher, what action is the United States taking as a result of Russia's violation of the Intermediate-Range Nuclear Forces [INF] Treaty?

Secretary SCHER. The first action that we are taking is working and trying to convince the Russians to come back into compliance with the INF Treaty. As you know, we have reported that the Russians have violated the INF Treaty. We hope that we can show and demonstrate to them that there was a reason why their predecessor government, the Soviet Union, went into this treaty in the first place, that was in their security and benefited their security to do so.

Simultaneously with trying to convince them of that, we are looking at what actions we can take to ensure that any violation of the INF Treaty does not provide significant military advantage to the Russians. And as people have testified previously to this subcommittee and elsewhere, we look at that in sort of three categories of military activities.

One is active defense, what we can do to defend places in Europe, locations that the INF Treaty-violating missile could reach. Another one is taking a look at how we could go about and actually attack that missile where it is in Russia. And then subsequently, a third part is looking at understanding that it is not simply attacking that capability, but that we can look at what things we can hold at risk within Russia itself.

We are still looking at all of those possibilities, narrowing down what we think would be the most effective, and working very closely with our allies to determine how to best deter this aggression from Russia, deter and bring Russia back in.

Mr. BROOKS. With respect to your efforts to convince or persuade the Russians to get back into compliance, has this administration been successful with respect to any of the breaches by Russia of the INF Treaty?

Secretary SCHER. The one breach that we have reported to you, we have not been successful at getting them to understand that that is something that is not in their interest to do, we believe. We will continue to work on them while looking at the military options, but our patience is not limitless on this.

Mr. BROOKS. At what point in time does the United States start taking more aggressive action concerning the Russian Government's failure to comply with their treaty obligations?

Secretary SCHER. We are still from an interagency perspective working to figure out the exact timelines, especially in consultation with our allies. I will note that we have had increasingly detailed discussions with our allies about Russia overall, and this weighs into when we could make the decision. But we do want to see if there is a chance that they could realize that they are better off by coming back into compliance.

Mr. BROOKS. The same question with respect to NATO [North Atlantic Treaty Organization]. Is NATO doing anything to try to force Russia to comply with its INF Treaty obligations?

Secretary SCHER. So we are working as part of the NATO alliance very carefully, both on the conventional side, as well as meeting as part of the NPG, the Nuclear Planning Group, looking at what NATO should be doing in response to the Russian violation of the INF Treaty, but also to look at this as a whole and understand that this is part of a broader aggressive posture from Russia. And I can go into more details if you would like about and the ins and outs of that in a closed session.

Mr. BROOKS. Thank you.

And to all of our witnesses, please describe the impacts and Nuclear Enterprise Review on the Nation's nuclear forces and the men and women that serve in them. You can go in whatever order you prefer.

Secretary SCHER. So I will just say from a policy perspective, we look at the Nuclear Enterprise Reviews, both the internal one and the external one, as critical looks at the enterprise and giving us key understanding of what some of the problem areas certainly were, the need for broader accountability and attention to the nuclear enterprise throughout the Department, and ensuring that it is supported throughout the Department and that it is integrated into all the ways we look at forces and operations in the Department.

And we are a part of that accountability mechanism. We have clear roles, along with other people and other institutions represented here. And we welcomed the opportunity to really look at the results of that review and implement fixes that will fix this now and into the future.

Mr. BROOKS. Dr. Hopkins.

Dr. HOPKINS. The Nuclear Enterprise Reviews identified some issues, some longstanding issues that have been in the nuclear enterprise for a while. And the fixes aren't going to be easy, they are not going to be inexpensive. But the good thing that has happened is the Department has stepped up to this. The Department is putting a billion dollars in 2016 alone in starting the fixes and adding more money over the future years program.

I think perhaps one of the best things that come up of it has been a recognition of what a fine force we have out there, in general, and a recognition that the professionalism of the nuclear forces is paramount.

The second good thing that has happened is, we mentioned the NDERG, the Nuclear Deterrent Enterprise Review Group chaired

by the Deputy Secretary of Defense, the highest levels of the Pentagon are engaged on this. And this isn't for one-time fixes. The Pentagon has established an enduring, persistent self-examination process using the Cost Assessment and Program Evaluation Office to track every single recommendation made by the enterprise reviews and make sure we get at the root causes.

Mr. ROGERS. The gentleman's time has expired.

The chair now recognizes the gentleman from California, Mr. Garamendi, for 5 minutes.

Mr. GARAMENDI. A question for you, Mr. Chairman. When will the classified session take place?

Mr. ROGERS. Immediately after we conclude.

Mr. GARAMENDI. Then I will keep to just one question. That has to do with the question that was raised earlier about the 10-year time horizon and the cost associated with it.

Dr. Hopkins, apparently you have a 25-year time horizon that you have been working on. Have you associated costs with that?

Dr. HOPKINS. Thank you for the question, sir. I do not have an associated cost with it. We of course will have cost estimates based on previous experience with the development of programs from earlier years, but we don't have a cost estimate with that.

Mr. GARAMENDI. Do you have associated estimated costs?

Dr. HOPKINS. I believe we do.

Mr. GARAMENDI. And they are?

Dr. HOPKINS. I don't have that number.

Mr. GARAMENDI. When can you get that number for us?

Dr. HOPKINS. I will take it for the record and get back to you.

Mr. GARAMENDI. Tomorrow?

Dr. HOPKINS. Certainly.

Mr. GARAMENDI. Tomorrow?

Dr. HOPKINS. Sure.

[The information referred to can be found in the Appendix on page 83.]

Mr. GARAMENDI. Thank you. My office number is——

Mr. ROGERS. I thank the gentleman.

The chair now recognizes the gentleman from Colorado, Mr. Coffman, for 5 minutes.

Mr. COFFMAN. Thank you, Mr. Chairman.

Major General Harencak, can you describe to me the need for the next generation manned bomber as part of the triad?

General HARENCAK. Yes, sir. We believe that the essence of the United States Air Force is the ability to hold at risk any target in the world in a matter of hours or at most days. And this ability allows no sanctuary for defense. The ability to penetrate enemy air defenses and prosecute the target is fundamental to what the United States Air Force does.

And our ability to do that is in long-range strike aviation, specifically bombers, is not going to be possible with our legacy systems, the youngest of which is a B–2 bomber that is about 25 years old. All of our B–52s are 1961, 1960 models, these are old aircraft. The B–1s are also aged. In fact, as our chief has said many times, our entire bomber fleet in any State in the union could qualify for antique license plates.

The ability that we must have, and certainly in a classified situation we could give you, again, a lot of very compelling data as to the need to a long-range strike, but I like to tell people it is because no one ever wants to walk into the Oval Office and say, Mr. President or Madam President, I am so very sorry, but we cannot neutralize that threat to America. And we need the Long-Range Strike Bomber so no one ever has to do that.

Mr. COFFMAN. Given all the advances, you talked about the cruise missile, that has been around for a long time, all the advances in a guidance system, precision guided munitions, that can be armed with nuclear weapons. I mean, obviously, we understand the air component part of the triad, but why can't unmanned capability replace manned capability in terms of that delivery system?

General HARENCAK. Well, I am not saying at some time in the future they cannot. What we have to deal with is the capabilities we currently have and what we foresee to be the capabilities in the future.

We believe from the nuclear aspect it is important to the triad, but I think it is important to realize that should the great day come when nuclear weapons disappear from the world, and if that happened tomorrow we would still need to build the Long-Range Strike Bomber because we must have a capability, again, to range with long-range, persistent, high-volume capability to destroy targets and allow no sanctuary, anywhere to go.

So that is currently best accomplished with a cranium in the cockpit. And there may come a time where that is not required, but certainly it is required in the near and midterm future.

Mr. COFFMAN. Mr. Chairman, I yield back.

Mr. ROGERS. The chair now recognizes the gentleman from Arizona, Mr. Franks, for 5 minutes.

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

Mr. Scher, some of us have been very concerned about the announcements of the framework points with Iran. The concerns that we have are that essentially it appears that these are going to replace the longstanding U.N. resolutions that required Iran to dismantle their uranium enrichment and plutonium production capabilities and that that is going to be replaced with a framework that in our minds, literally, notwithstanding the claims that it would lengthen the breakout period, but that in the ultimate sense this would allow Iran a protected zone of time, a buffer, as it were, to develop some of their ancillary research and other things that gives them an even more sure opportunity to ultimately become a nuclear-armed nation.

Henry Kissinger and George Shultz opined that, quote, "This deal will reinforce, not resolve the world's challenges in that region." And we certainly believe that.

Now, to ameliorate some of our concerns the administration has put forth this ostensible idea that they will now make sure that our Middle East allies are under our nuclear umbrella. And some of us are concerned that that creates a whole host of new strategic questions and risks. And I would like essentially just to make a deal that is, in my judgment, a very, very dangerous deal work, that they would literally try to quell our concerns by putting some of our Middle Eastern allies under our nuclear umbrella.

Is that true from your point of view? And does that, you think, enhance the national security perspective of the United States?

Secretary SCHER. I certainly, Congressman, have seen reports where individuals have opined, but not from the administration, about nuclear assurance and guarantees from Middle East colleagues and allies and friends.

Mr. FRANKS. But you know nothing, that there is no consideration on the part of the administration to do that?

Secretary SCHER. I think there is consideration about a range of things. I will tell you that the people who are involved directly with the Middle East affairs, I certainly can get an answer from them as to where we are now.

[The information referred to can be found in the Appendix on page 83.]

Secretary SCHER. But my understanding is that we are continuing to look at ways that we can reassure our friends in the gulf. But I have not seen where administration officials have spoken about nuclear guarantees as part of that. I can't say that no one is, but I have not seen that.

And my understanding is that we are focused on the assurances for our friends and allies that we have had in the past in terms of working closely with them, interoperability, foreign military sales, and especially missile defense cooperation in the Gulf Cooperation Council individual nations.

Mr. FRANKS. Well, I would just suggest that putting Iran on a surer footing, a surer track to become a nuclear-armed nation does not encourage our allies in the region. And "terrified" is probably a good word here.

It seems the administration has chosen to punt here rather than deal with the real issue, and they only make the equation more complicated down the road. And whatever the dangers are in preventing Iran from gaining a nuclear weapons capability, and there certainly are risks and costs to do that, they will pale in comparison to dealing with them once they have a nuclear weapons capability.

With that, General Harencak, I will move on to you, sir. Regarding our aging nuclear infrastructure, I was hoping you could tell us what the analysis of alternatives is for the follow-on to the Minuteman III regarding the cost, as opposed to simply refurbishing and extending the life of the current Minuteman III. In other words, juxtapose that from acquiring a new missile system or refurbishing the old one.

Also, we have an aging fleet of B–52s. I would love to hear your story about that. I know it is a very compelling one. How old is the B–52? How old will it be when we plan to retire it? And do you have any specific insight into it?

General HARENCAK. Well, sir, thank you for the opportunity to talk about the GBSD [Ground-Based Strategic Deterrent].

We believe that the best way to maintain the foundational aspect of the ICBMs [intercontinental ballistic missiles] that are what we believe to be foundational to our triad and nuclear deterrent is—the Minuteman III is a 1970 weapon, as you know. The great airmen out there are doing a fantastic job of sustaining this missile as a weapon system with silos that are sometimes even older than

the missiles themselves. And it is an amazing engineering challenge to keep that system up and functioning as well as it did.

And certainly, the nuclear reviews that we talked about a little bit have mentioned some of the things specifically focused on ICBMs that we need to reevaluate and work in a systemic and productive manner and we are certainly doing that.

Mr. ROGERS. Gentleman's time has expired.

Chair is now going to recognize the gentleman from Nebraska, Mr. Ashford, for 5 minutes.

Mr. ASHFORD. If this has been asked, I apologize, I was a bit late. The global strike force at Offutt, the functional component command, could you just—if you have already talked about that—but could you just—if you have, I am sorry to ask it again—but could you talk about that, the Offutt Air Force Base joint command, functional command facility, just about its future and how you see it evolving?

I could ask, General, if you could talk about that. And if that question is too obtuse, I apologize. Well, the joint functional command component at Offutt, how do you see that evolving into the future, whether it has the capability or the resources moving forward?

General HARENCAK. Unfortunately, sir, I will have to get back to you for the record on that.

[The information referred to can be found in the Appendix on page 84.]

Mr. ASHFORD. I don't have anything else.

Mr. ROGERS. The chair now recognizes the gentleman from Oklahoma, Mr. Bridenstine, for 5 minutes.

Mr. BRIDENSTINE. Thank you, Mr. Chairman.

When NATO published its Deterrence and Defense Posture Review, DDPR, in 2012, NATO explicitly saw Russia as a cooperative partner for peace in Europe and the wider world. That was in 2012. That was after the invasion of Georgia, the current occupation of South Ossetia and Abkhazia.

Since 2012, Russia has illegally annexed Crimea, they have destabilized broader eastern Ukraine. Certainly their actions and of course, I guess, their language towards other European nations has been hostile. And so we have got these challenges with Russia.

Mr. Scher, you sit on the U.S. representative to the High Level Group within NATO, which does NATO's nuclear planning. Is NATO going to revisit the basic assumption of the DDPR that Russia is a partner?

Secretary SCHER. Congressman, I can't speak to where the alliance is coming down on the political issues. What I can speak to broadly in this forum and will be happy to do in more detail in the classified session is note that we on the HLG, the High Level Group, as support to the Nuclear Planning Group, the NPG, as the ministers sit in that forum, are taking a look at the capabilities that exist in Europe amongst all countries and determining how we can best ensure that the alliance remains safe and secure, and the deterrence is maintained, and if deterrence fails, how we as an alliance can protect our interests and protect ourselves against any adversary that exists.

Mr. BRIDENSTINE. I understand that the alliance has 28 nations, and of course they all have various interests and it is sometimes hard to come to a specific resolution on these important matters. But Russia is calling NATO a threat. Are we indicating to NATO that maybe we ought to consider Russia a threat?

Secretary SCHER. We are certainly working with NATO. As you well know, as you said, it takes a while for 28 nations to come to consensus on things. But I have no doubt and can assure you that NATO is looking at the actions of Russia and looking to see and understand that these are actions that are assertive and aggressive towards friends and partners in the region and that we need to start taking a look at both the actions and the capabilities of the Russian Federation.

Mr. BRIDENSTINE. The DDPR called for NATO-Russia cooperation on missile defense. NATO-Russia cooperation on missile defense. Is it your recommendation that we should rewrite the DDPR?

Secretary SCHER. Certainly, we are no longer looking at any cooperation in missile defense with Russia at this point. In fact, NATO has specifically said that we will—and we will not have any interactions with Russia given the actions that they have taken. The Wales Conference looks very clearly and makes very clear statements about Russia's recent actions over the course of the past year.

Mr. BRIDENSTINE. So should we rewrite the DDPR then?

Secretary SCHER. That is for my colleagues at the State Department to determine with ministers at that level. But certainly I can assure you that we are looking at actions that understand that the situation has changed since the writing of the DDPR.

Mr. BRIDENSTINE. Can you give us in this session any conversations that NATO has had regarding Russia's violation of the INF Treaty?

Secretary SCHER. I would prefer to keep that for the classified session, sir.

Mr. BRIDENSTINE. Okay.

Admiral Benedict, question for you. When we think about our space communications architecture for nuclear deterrence, we use AEHF [Advanced Extremely High Frequency] satellites. There is some talk about using some of that capacity for tactical purposes, as well as strategic purposes. Is there a concern there that we might be cannibalizing some of our capacity for tactical?

Admiral BENEDICT. Sir, thank you for the question. There is an actual ongoing review of what we call NC3 [nuclear command, control, and communications] from an end-to-end perspective right now, led at the OSD level. That information has not yet been reported out, but I am confident that that action that you referred to is part of that review. And I would respectfully request that we wait until that review——

Mr. BRIDENSTINE. Sure. Do you know when that review would be complete?

Admiral BENEDICT. Sometime this summer, sir. I don't have the exact date, but I can get back to you.

Mr. BRIDENSTINE. Okay. And I would love to have a copy of that, if possible.

Admiral BENEDICT. Understood.

[The information referred to can be found in the Appendix on page 84.]

Mr. BRIDENSTINE. Okay. And I will yield back. I am out of time.

Mr. ROGERS. Thank the gentleman.

The chair now recognizes the gentleman from Colorado, Mr. Lamborn, for 5 minutes.

Mr. LAMBORN. Thank you, Mr. Chairman.

Admiral Benedict, what is the minimum number of *Ohio*-class replacement submarines that are required to fulfill STRATCOM's requirements for sea-based deterrence? And I know we have talked about this before, but I think it is important to go on record about this.

Admiral BENEDICT. Yes, sir. That would be the number in the program of record, which is 12, with 16 tubes per submarine, sir.

Mr. LAMBORN. And what happens if you have less than 12?

Admiral BENEDICT. Sir, if we have less than 12, then—we have done the analysis and provided that to STRATCOM—we will not be able to meet the STRATCOM requirement of numbers at sea in alert and mod-alert status, as well as numbers at sea to support the STRATCOM requirement for a certain number of hours to have certain numbers at sea.

Mr. LAMBORN. So if you have X number in the fleet, some are always going to be at a base somewhere or being resupplied, and some will be trained.

Admiral BENEDICT. And maintenance, yes, sir.

Mr. LAMBORN. And only a subset of that number will be available at any given time.

Admiral BENEDICT. Yes, sir. Based on the analysis, 12 gives us confidence from a statistical standpoint that we will always have 10 ready for sea, which is the number necessary for STRATCOM.

Mr. LAMBORN. Excellent. Thank you so much.

Admiral BENEDICT. Yes, sir.

Mr. LAMBORN. Mr. Scher, President Obama's nuclear employment guidance rejects the notion of, quote, unquote, "de-alerting" U.S. nuclear forces, though continuing to examine options to reduce the role of "launch under attack." Please explain why the President chose to reject de-alerting U.S. ICBM forces.

Secretary SCHER. The way that we looked at this was that it did not make any great sense to de-alert forces, that we thought that all the forces that were there needed to be ready and effective and able to prosecute the mission at any point in time. And that was the determination made, that that was valuable for presenting multiple options for the President and for safety, security, and surety of the nuclear enterprise.

Mr. LAMBORN. Okay, thank you.

And following up on that, General Harencak, some critics have said that our ICBMs are under hair-trigger alert. Is that an accurate categorization?

General HARENCAK. It is an absolutely not accurate. And it is an emotional aspect that people attach to this that is not fundamentally factual to what goes on in our ICBM launch control facilities.

So absolutely not, sir. They are not under hair-trigger alert. They are very responsive, the most responsive aspect of our nuclear triad. But that characterization is inaccurate and unfair.

Mr. LAMBORN. Thank you for clarifying. And there are many safeguards and checks and balances that are built and put into place, right?

General HARENCAK. A holistic system of safeguards put into place, absolutely, sir.

Mr. LAMBORN. Thank you. I have been to F.E. Warren and seen the underground command center. I have seen how this has tremendous amounts of fallback, fail-safe provisions. It is a great thing that has been done in setting up the system in an appropriate way. But, nevertheless, the Nuclear Enterprise Review in 2014 identified a whole bunch of corrective actions that the Air Force should carry out to fix leadership morale, culture, and other problems, and some of those were in the ICBM force. So what actions are being taken to improve the ICBM force?

General HARENCAK. A large slate of actions, sir, have been under place, and they started during our Force Improvement Plan, which actually we started prior to the external review reports and the internal review reports and the STRATCOM report that the NERs are all referencing now, and the tracking.

A number of issues, from personnel management, to sustainment issues, to the ability of us to ensure that the morale and career progression of our missileers is enhanced, has allowed a lot of positive improvements that have already been seen and continue to be seen in our ICBM force.

Mr. LAMBORN. And one specific action. And I too, like the ranking member, was distressed when I heard about the wrench that had to be shared among several locations. Is there any situation like that today that you are aware of?

General HARENCAK. No, sir.

Mr. LAMBORN. And was that an accurate report at the time?

General HARENCAK. It is. Actually, like everything else, there is a little bit more to the story. That particular wrench was only used about 5 times in 8 years. And so somebody, believing that they were actually doing something good, decided why don't we FedEx them, it would save a certain amount of money. In retrospect, that was a bad decision, but it was a decision based on the best of intentions.

Mr. LAMBORN. All right. Thank you gentlemen all for your service.

Mr. ROGERS. We have a little bit of time. They are calling us for votes right now, but we have a little time.

Dr. Hopkins, your boss, Under Secretary Kendall, is the chairman of the Nuclear Weapons Council and you are the executive director. Very briefly, do you think the Council would benefit from having new members, like, for example, the director of CAPE [Cost Assessment and Program Evaluation] and its equivalent from NNSA [National Nuclear Security Administration], or the DOD comptroller and his equivalent from NNSA? Why or why not?

Dr. HOPKINS. Mr. Chairman, thank you very much for that question. As you know, Mr. Kendall chairs the Nuclear Weapons Council, and the other four members are the Vice Chairman of the Joint

Chiefs, the head of Strategic Command, the Under Secretary for Policy, and STRATCOM. And as the Nuclear Weapons Council does meet, it has a number of advisers on it. And as you know, CAPE is an adviser and so is the comptroller, along with each of the three services and the Office of the General Counsel.

The Nuclear Weapons Council is a very collaborative body, they operate on consensus, and it is working very efficiently at this point. And I would not recommend any changes to the membership, primarily because the way it is operating, the chairman and the members take into account fully the recommendations and the comments from all of the advisers, including CAPE and including the comptroller.

Mr. ROGERS. Dr. Hopkins, what was the DOD's reaction to an annual requirement to give Congress a 25-year plan with expected budgets and funding for DOD with nuclear forces? Would this be overly burdensome, and would it be useful or accurate looking that far ahead?

Dr. HOPKINS. You want me to speculate on the DOD's reaction? I think the initial reaction would be, oh, no, not another report. In general, the report would be perceived as burdensome. So that is the mechanics of it.

In fact, as you know, we do look out. These programs we are talking about go well beyond the 5-year defense program time limit. We have to think well into the future years. And right now we submit a 10-year report that does have programs and costs on it.

We do look out 25 years and longer in order to actually see this modernization mountain that we have been talking about in the 2020s. As you would expect, looking out that far, 25 years, the credibility of the numbers would be very, very suspect.

However, the ability to look out that far and anticipate the need for future modernization, additional resources, or gauge the impact of decisions that we make today is very important to us.

I would not recommend a new report, but I would instead recommend we do what we are doing now, which is sharing the baseline plan, which does go out 25 years, and share that information, as we have been.

Mr. ROGERS. Okay. Let's talk about the B61. In our hearing with General Klotz last month we heard that NNSA's part of the B61 life-extension program [LEP] is proceeding well, on time and on budget. Let's hear from the other side of the river. General Harencak, how is the Air Force portion of the B61 LEP going? Are we going to get a full tail kit for this bomb that is on time and on budget? What are the primary risks for this program?

General HARENCAK. Yes, we are on time, we are on budget. We see absolutely nothing that would risk us not being able to deliver for 2020 as required.

Mr. ROGERS. Great.

Mr. Scher, what is DOD's position on the cost for the U.S. to ask our NATO allies to pay for part of the B61 LEP.

Secretary SCHER. Certainly our NATO allies have a lot of burden sharing in the DCA [dual-capable aircraft] mission, but I would not recommend sharing some of the costs of the B61 would be part of that. They do a lot of burden sharing in terms of site security, in

term of sharing some of the costs for the storage, for NATO percentage costs.

But to share costs on the B61 I think would open up a lot of other issues, such as them having some understanding or wanting to be involved in some of the engineering and the design. All of that is quite sensitive and I really don't think is something that we would want to open up to our NATO allies, especially because the B61 is not just for the Europe DCA mission, but is for nuclear missions for us around the world.

Mr. ROGERS. Great. And I want to clarify, the House is going into recess for 15 minutes. At 4:30 they will call us for votes.

I yield to the ranking member for any additional questions he may have.

Mr. COOPER. I have no more questions at this time, Mr. Chairman.

Mr. ROGERS. Okay, then. Mr. Garamendi, do you have anymore questions before we go into classified session? Okay.

With that, we will recess while we travel down to 2337 in the SCIF [Sensitive Compartmented Information Facility] for the classified portion of this hearing.

[Whereupon, at 4:20 p.m., the subcommittee proceeded in closed session.]

# A P P E N D I X

APRIL 15, 2015

**PREPARED STATEMENTS SUBMITTED FOR THE RECORD**

APRIL 15, 2015

**Opening Remarks – As Prepared for Delivery**

**The Honorable Mike Rogers**
**Chairman, Subcommittee on Strategic Forces**
**House Armed Services Committee**

**Hearing on the "Fiscal Year 2016 Budget Request for Nuclear Forces"**

**April 15, 2015**

Good afternoon. The subcommittee will come to order.

Welcome to our hearing on the President's fiscal year 2016 budget request for the nuclear forces of the Department of Defense.

I want to thank our witnesses for being here today. We appreciate you taking the time to prepare for this hearing and the contributions you each make to the nation's security. Our distinguished witnesses are:

- **The Honorable Robert Scher**
  Assistant Secretary of Defense for Strategy, Plans, and Capabilities
  U.S. Department of Defense

- **Dr. Arthur Hopkins**
  Acting Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs
  U.S. Department of Defense

- **Vice Admiral Terry Benedict**
  Director, Strategic Systems Programs
  U.S. Navy

- **Major General Garrett Harencak**
  Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration
  U.S. Air Force

Before we begin, let me highlight a few of the issues I hope we'll take on during this hearing.

First, like I said at our hearing with General Klotz last month, let's be clear on our nation's defense priorities. Last November, then-Secretary of Defense Chuck Hagel said:

> "Our nuclear deterrent plays a critical role in assuring U.S. national security, and it is DOD's highest priority mission. No other capability we have is more important."

This is the correct priority, and it is encouraging to see it recognized and stated so clearly.

So the question for our witnesses is: how is this priority being translated into policy and budgets? We've heard at least one of our witnesses say that this country took a "procurement holiday" for two decades when it comes to nuclear deterrence. Well, it's time to come back from that holiday and get to work.

In the fiscal environment we are facing it won't be easy. But if nuclear deterrence is truly the nation's #1 priority defense mission—and I strongly agree that it is—then budgets and policies must follow.

Second topic: are we setting up our nuclear forces to deal with the correct emerging and future threats? The United States takes forever to acquire any major weapon system—and it takes forever-and-a-half to acquire any nuclear system.

How do we ensure our nuclear forces and the infrastructure and capabilities that underpin them are adaptable, flexible, and responsive? The stabilizing and complementary nature of the nuclear triad is remarkable, but we must make sure it is not brittle.

Leaving the uncertainty of the future aside, the threats we face here and now continue to evolve. Admiral Gortney has made clear that the nuclear threat to the U.S. homeland from North Korea is real. Admiral Locklear has made clear that China's nuclear forces now include operational ballistic missile submarines. Iran has seemingly been handed a pass on its gross violations of the Nuclear Nonproliferation Treaty and, if the President gets what he wants, will become an accepted nuclear-threshold state.

And Russia continues to violate the sanctity of sovereign borders, numerous international and bilateral treaties, and basic human decency. Our position should be clear: as Russia continues to rattle its nuclear saber, it is the strength of U.S. nuclear forces that makes sure we and our allies will never be intimidated or coerced.

With all of those challenges on the table, let me end by commending the Department and the Services for stepping out smartly to address another big challenge: fixing the leadership, morale, and under-investment problems in our nuclear forces. The Nuclear Enterprise Review was a clarion call to action, and the Department has taken action. More needs to be done, but early indications are positive. Keep up the good work—and keep this committee informed of the good, the bad, and the ugly as we go forward.

Thank you again to our witnesses—I look forward to the discussion.

With that, let me turn to our ranking member for any statement he would like to make.

# # #

STATEMENT OF

ROBERT SCHER

ASSISTANT SECRETARY OF DEFENSE

FOR STRATEGY, PLANS, AND CAPABILITIES

BEFORE THE HOUSE

ARMED SERVICES

SUBCOMMITTEE ON STRATEGIC FORCES

APRIL 15, 2015

Chairman Rogers, Ranking Member Cooper, members of the Subcommittee, thank you for opportunity to testify on the role, structure, and posture of U.S. nuclear forces. I am grateful for the consistent attention and support you contribute to the critical mission of sustaining a safe, secure, and effective nuclear deterrent capability.

**OBJECTIVES OF U.S. NUCLEAR POLICY**

As Assistant Secretary of Defense for Strategy, Plans, and Capabilities, I am focused on connecting the ends, ways, and means of U.S. defense policy. This includes ensuring that our nuclear forces, posture, and employment strategy fully support U.S. nuclear policy objectives – that we have what we need to secure our vital interests. It also includes greater ability to understand how nuclear weapons fit within the overall set of DoD operations and capabilities.

The key objectives of U.S. nuclear weapons policy are stated in the 2010 Nuclear Posture Review (NPR) and the 2013 Report on Nuclear Employment Strategy of the United States. While working to create the conditions necessary to realize the peace and security of a world without nuclear weapons – an ambitious goal that will not be reached quickly, the United States will sustain a safe, secure, and effective nuclear arsenal, for as long as nuclear weapons exist. Our nuclear forces and posture serve to maintain strategic deterrence and stability, strengthen regional deterrence, reassure U.S. allies and partners, and provide the means to achieve U.S. and allied objectives if deterrence fails.

**ROLE OF NUCLEAR WEAPONS IN U.S. DEFENSE STRATEGY**

Within our broader National Security Strategy, the fundamental role of U.S. nuclear weapons is to deter nuclear attack on the United States, our allies, and partners. Our nuclear deterrent is the ultimate protection against a nuclear attack on the United States, and through

extended deterrence, it also serves to reassure our allies of their security against regional aggression. It also supports our ability to project power by communicating to potential nuclear-armed adversaries that they cannot escalate their way out of failed conventional aggression.

The basic mechanism of deterrence is to prevent aggression by deliberately modifying the cost-benefit analysis of the adversary. Our approach is to maintain a credible nuclear deterrent capable of convincing any potential adversary that the risk or adverse consequences of attacking far outweigh any potential benefit. Nuclear forces and other strategic capabilities connect to both sides of this equation. We maintain survivable response capabilities sufficient to ensure that no adversary contemplating nuclear attack could avoid the risk of incurring intolerably high costs in return. Similarly, an adversary cannot employ even limited nuclear attacks as a tool of coercion without risking escalation to levels that would negate any conceivable benefit. Finally, our homeland missile defense capabilities deny States such as North Korea and Iran any assured benefit of undertaking a limited ballistic missile attack.

Although remaining a critical element of our national security strategy, nuclear weapons play a reduced role now as compared to past decades. Our conventional forces are a significant component of our overall deterrence capabilities, and we plan to meet the nuclear deterrence requirements outlined earlier with the smallest possible stockpile. We have provided a strengthened "negative security assurance" to non-nuclear weapons States that are party to the Nuclear Non-proliferation Treaty (NPT) and are in compliance with their non-proliferation obligations. We are conducting warhead Life Extension Programs (LEPs) to sustain existing capabilities, rather than developing new nuclear weapons to support new military missions or provide new military capabilities. These sustainment efforts are structured to uphold the now

decades-long U.S. commitment to forgo nuclear testing, which has spanned multiple Administrations.

**STRATEGIC DETERRENCE AND STABILITY**

The strategic and geopolitical landscape presents a number of challenges that President Obama and previous Presidents have addressed by assigning missions to U.S. nuclear forces. First, we configure our forces and posture to maintain strategic stability in our deterrence relationships with Russia and China, in peacetime and in crisis.

Despite serious concerns in other areas of U.S.-Russian relations, both countries continue successful implementation of the New START Treaty. The New START Treaty verifiably reduces and limits the strategic arsenals of both nations, and is consistent with our objective of maintaining strategic stability at reduced force levels. Between September 1, 2014, and March 1, 2015, Russia reduced its number of deployed warheads accountable under the New START Treaty from 1,632 to 1,582, while the United States went from 1,642 to 1,597. Over the same time period, Russia reduced the number of deployed and non-deployed Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs) and heavy bombers from 911 to 890, while the United States reduced its deployed and non-deployed ICBMs, SLBMs, and heavy bombers from 912 to 898. Both sides are obligated to reduce to no more than 1,550 deployed strategic warheads and 800 strategic delivery vehicles, by February 2018.

We maintain several ongoing security dialogues with China, and we continue to express our interest in realizing potential mutual benefits of increased bilateral transparency and deeper engagement regarding nuclear weapons and other strategic issues.

**EXTENDED DETERRENCE AND ASSURANCE**

The United States remains firmly committed to the extended deterrence and assurance mission of our nuclear forces. The primary objectives of extending deterrence are to assure allies of U.S. commitments to their security, and to discourage potential adversaries from undertaking nuclear-backed coercion of our allies and partners. Effective assurance also supports our nonproliferation objectives by demonstrating to those same allies and partners that they need not pursue nuclear arsenals of their own.

Our commitment to NATO is firm. Nuclear weapons remain a core component of the NATO Alliance's overall capabilities for deterrence and defense, and, as articulated in the 2010 Strategic Concept and the 2012 Deterrence and Defence Posture Review, NATO will remain a nuclear alliance for as long as nuclear weapons exist. Current Alliance nuclear force posture meets the criteria for effective deterrence and defense. The strategic nuclear forces of the Alliance provide the supreme guarantee of the security of the NATO Allies, and the United States provides further support with forward deployment of B61 bombs for both U.S. and Allied dual-capable aircraft.

Our commitment to extended deterrence and assurance is real and tangible in Northeast Asia as well. There too, our strategic nuclear forces underwrite the security of our allies. And there too, maintaining the ability to deploy nuclear weapons globally with dual-capable fighter aircraft and bombers bolsters the credibility of our deterrent.

In the case of each extended deterrence and assurance relationship, the United States leverages formal alliance security mechanisms for consultation on strategic defense issues. Within NATO, we participate in the Nuclear Planning Group and the High-Level Group, which I chair. Similarly, the United States works with the Republic of Korea through the Extended

Deterrence Policy Committee (EDPC), and with Japan through the Extended Deterrence Dialogue (EDD). These bodies contribute to alliance cohesion and effectiveness by providing fora to discuss and formulate nuclear policy, and to assess and prepare to counter threats.

We are increasing DoD's focus on planning and posture to deter nuclear use in escalating regional conflicts. The goal of strengthening regional deterrence cuts across both the strategic stability and extended deterrence and assurance missions to which our nuclear forces contribute. Associated efforts include enhanced planning to ensure options for the President in addressing the regional deterrence challenge.

**EFFECTIVE DETERRENCE**

Success in these mission areas means maintaining effective deterrence. Effective nuclear deterrence requires that our strategy is credible. It requires nuclear forces postured to support that strategy. Effective deterrence must be sustained over time. And effective deterrence is stable and robust. Let me speak briefly about each of these.

**Effective deterrence requires credibility**

First, effective deterrence requires credibility. We sometimes distinguish between the ability to deter and the ability to achieve our objectives if deterrence fails, but the two are in fact inextricably linked. Deterrence is most effective when underwritten by forces, posture, and strategy that can credibly succeed in the event deterrence fails. At the opposite extreme, a deterrent without credibility would be no deterrent at all.

The current U.S. nuclear weapons employment strategy supports credible deterrence by sustaining a flexible range of plans and capabilities to provide options to the President in the

event deterrence fails. Preserving credibility in this way does not mean lowering the very high threshold for nuclear weapons use – the President would only consider their employment in extreme circumstances to defend our vital interests. But if that threshold is crossed, we and any potential adversary must be assured our systems will function as expected to achieve planned effects.

**Effective deterrence requires capabilities**

Effective nuclear deterrence also depends on maintaining forces and posture that enable and protect responsiveness, flexibility, and survivability. This remains best served by sustaining a full Triad with a range of nuclear explosive yields and delivery modes.

Each leg of the Triad contributes unique characteristics to the overall force. Strategic submarines (SSBNs) provide maximal survivability. Current U.S. nuclear posture preserves survivability by maintaining a continuous SSBN at-sea presence.

Land-based ICBMs provide the most rapid response capability, while maximizing Presidential decision making time and preventing accidental launch. Current U.S. nuclear posture preserves that responsiveness and reinforces crisis stability by maintaining most ICBMs on alert. The ICBM force complicates the planning of any adversary contemplating a disarming counterforce strike by vastly increasing the required scale of such an attack. For regional adversaries with smaller nuclear arsenals, the challenge of even targeting our ICBM force is insurmountable.

Nuclear-capable aircraft that can be forward-deployed provide the United States with flexibility and visibility that supports strategic deterrence, extended deterrence of potential

adversaries, and assurance of U.S. allies and partners. The air leg represents the full Triad when used by the President to help signal resolve. In this capacity, these aircraft provide the President options for controlling and limiting escalation throughout all stages of a potential conflict.

The combined effect of all three legs is to force any adversary seeking to negate our deterrent to invest in multiple expensive capabilities, including large-scale hard-target kill capability, advanced anti-submarine warfare (ASW) technology, and extensive, multi-layered air defense. The scale and complexity of this task protect the long-term survivability and credibility of our deterrent. Sustaining a full Triad also enables the policy objective of maintaining the ability to hedge effectively against failure of any single warhead or platform, and against shifts in the strategic and geopolitical environments.

**Effective deterrence must be sustained**

There are three key elements to sustaining effective deterrence over time: A viable sustainment and modernization plan, stable funding, and consistent focus. The President has opted for a sustainment and modernization program that is consistent with his commitment to retain a safe, secure, and effective deterrent for as long as nuclear weapons exist. This plan focuses on modernizing the platforms, delivery systems, and weapons of our current Triad to credibly preserve military capabilities in the face of evolving threats. Preserving these capabilities means preserving a range of options for this President and future Presidents.

Our plan is also consistent with the Administration's policy objective of reducing the role and number of nuclear weapons in U.S. defense strategy. It is not, as some have claimed, a nuclear weapons buildup. On the contrary, the number of nuclear weapons in the United States is the smallest it has been since the Eisenhower Administration, and the number of deployed

nuclear warheads will continue to go down as we and Russia both reach the New START Treaty limit. Furthermore, our approach to warhead sustainment and modernization will enable additional reductions in the non-deployed hedge force.

The 3+2 stockpile plan remains the Administration's long-term approach to maintaining weapons for an effective nuclear Triad at reduced force levels and reduced cost. As envisioned, the future stockpile plan will include three interoperable nuclear explosive packages for ballistic missiles and two air-delivered warheads, referred to as the "3+2 stockpile strategy." The 3+2 strategy addresses stockpile obsolescence and meets the policy objectives of sustaining deterrence through a smaller stockpile with fewer weapon types and a modernized, responsive nuclear infrastructure capable of addressing technological and geopolitical surprise. Making nuclear explosive packages interoperable on different delivery platforms will reduce the number of different systems that must be maintained and serviced, while providing sufficient diversity among deployed systems.

We must achieve and maintain the necessary funding balance among three critical areas to allow continued certification that our nuclear weapons remain safe and secure, and to sustain effective deterrence over time: stockpile system sustainment and life extension; stockpile science and engineering; and sustaining and modernizing the aging nuclear enterprise infrastructure. Without the support for current and future funding requests, there would inevitably be impacts in one or more of these areas. Sequestration presents the greatest threat to the viability of our sustainment plan, and I'm grateful for the Committee's support in seeking relief for both the Department of Defense and the Department of Energy.

Sustainment and modernization of the Triad will require significant resources over the next decade and beyond, but the nuclear mission is the highest priority mission in the Department of Defense and we must prioritize it accordingly. During his confirmation hearing, Secretary Carter called the nuclear enterprise "a bedrock of our security" and "a foundational responsibility of the Department of Defense." The President's budget reflects this prioritization, with $142B requested to recapitalize, sustain, and modernize the nuclear enterprise over the next five years. This includes nearly $8.5B in enhancements as a result of findings by last year's Nuclear Enterprise Reviews. These budget enhancements fall in several key areas: additional oversight to clarify the nuclear deterrent leadership structure and reduce administrative burdens imposed on the forces; increased investment in the nuclear deterrent enterprise to improve and sustain current equipment and infrastructure, and for increased personnel and training; and improvements in the way we conduct inspections, ensure the reliability of our nuclear personnel, and provide for security of our nuclear weapons.

Consistent focus is the third key element of sustaining effective deterrence over time. Last year, then-Secretary Hagel created the Nuclear Deterrent Enterprise Review Group (NDERG) to help maintain senior-level focus on the nuclear mission, and to integrate all the elements of the nuclear force into a coherent enterprise. He asked Deputy Secretary Work to lead this effort. Establishing the NDERG was part of a serious and vigorous DoD response to the findings of the Nuclear Enterprise Reviews. Secretary Carter shares former Secretary Hagel's commitment to maintaining this focus and ensuring real near-term improvements in nuclear force sustainment and morale.

**Effective deterrence is stable and robust**

Our sustainment and modernization plan is designed to support effective deterrence by maintaining a deterrent capability that is stable and robust, rather than one that is necessarily reactionary to every move or development by potential adversaries. Russia's recent behavior, which currently poses one of our most pressing and rapidly evolving strategic challenges, underscores the importance of stable and robust deterrence. We are confronted with Russia's occupation and attempted annexation of Crimea, continuing aggressive Russian actions in eastern Ukraine, Russia's increasingly aggressive nuclear posturing and threats, including the prospect of nuclear weapons in Crimea, and its violation of the Intermediate-Range Nuclear Forces (INF) Treaty.

The Administration's response to Russia's actions must be integrated across all instruments of national power, including diplomatic, economic, and military. As you are aware, we have already taken a number of military steps to strengthen security in NATO and reassure our allies. The DoD continues to develop and refine potential military responses to Russia's violation of the INF Treaty. Because the Administration continues to formulate a comprehensive diplomatic, economic and military response to Russia's violation I cannot be more specific regarding those military responses at this time. I can say, however, that our patience with Russian intransigence regarding its violation of the INF Treaty is not unlimited. As an Administration, we are committed to ensuring Russia does not achieve a significant military advantage from its violation.

Russia's violation of the INF Treaty does not compromise our capacity for strategic deterrence or extended deterrence, and it will not compromise our commitment to the security of our NATO Allies. Our sustainment and modernization plan was specifically designed to hedge against geopolitical risk, including increasing strategic competition with Russia.

Although we must continue to monitor closely and assess the modernization programs of nuclear-armed States, there is currently no need for the United States to develop a new nuclear weapon. There is no military requirement for such a weapon, precisely because the current Triad continues to provide the flexibility and range of capabilities we need for effective deterrence. Rather than diverting resources into pursuing new weapons, it is vital that we continue supporting the current plan for sustaining and modernizing our existing nuclear forces.

**CAPABILITIES TO UNDERWRITE EFFECTIVE DETERRENCE**

Now let me highlight specific elements of our sustainment and modernization plan, and describe the critical capabilities they contribute to our overall nuclear forces.

**Sustaining the sea leg**

Our plan for sustaining the survivable sea-leg of the Triad includes needed replacement of the OHIO-class SSBN, and sustainment of the Trident II D5 SLBM and associated warheads. The OHIO-class Replacement Program and supporting systems require adequate resources and a stable, predictable funding profile to ensure an on-time construction start in Fiscal Year (FY) 2021 and to meet the first deterrence patrol need date of FY 2031. This new class of submarines will have a service life that will enable patrols into the 2080s, and will remain survivable even as adversary ASW technology advances and proliferates.

The Navy is conducting a Trident II D5 missile Life Extension Program (LEP) to sustain it through at least 2042 in order to support the extended life of the OHIO-class submarine. This program will also allow the Trident II D5 to be deployed on OHIO Replacement SSBNs.

The W76-1 SLBM Warhead Life Extension is well underway, with production now past the halfway mark and on track for completion in FY 2019. An expanded work scope for the W88

Alteration (ALT) 370, funded in the President's FY 2016 budget, will sustain it until an interoperable warhead replaces it under the 3+2 plan.

**Sustaining the land leg**

The land-based leg of the Triad also requires sustainment and recapitalization. The Air Force recently completed several modernization programs to sustain the Minuteman III ICBM force through the mid-2020s, and will need to address additional age-related concerns to sustain the missile through 2030. The Air Force conducted a Ground-Based Strategic Deterrent (GBSD) Analysis of Alternatives (AoA) to study a full range of concepts to recapitalize the ICBM force beyond the extended service life of the Minuteman III missile. DoD is currently reviewing GBSD acquisition planning and options for reducing programmatic risk.

The first interoperable warhead, the W78/88-1 LEP, was delayed to adjust to budgetary constraints and balance warhead production schedules. Once completed, it will provide both an ICBM warhead and an SLBM warhead. This is an important step towards a stockpile comprised of fewer weapons and fewer weapon types, that is nonetheless more responsive to technological and geopolitical surprise.

**Sustaining the air leg**

We need to take a number of steps to sustain the air leg of the Triad, and to preserve our overall flexibility and ability to adapt to an evolving strategic environment. We must ensure the continued viability of our current strategic bomber force through procurement of the Long-Range Strike Bomber (LRS-B); ensure dual-capability of the F-35; replace the aging Air-Launched Cruise Missile (ALCM); and complete the B61 gravity bomb life extension.

The Air Force continues to modernize its nuclear-capable bomber fleet to extend the life of the B-52 and B-2. The B-52, which comprises the bulk of our current strategic bomber force, will be up to 80 years old when its replacement is completed sometime after 2040.

The Long-Range Strike Bomber (LRS-B) is one of the Air Force's top three acquisition priorities and is currently in the development phase. It is critical for sustaining the capability to deliver both nuclear and conventional munitions in sophisticated and evolving "anti-access" threat environments. The F-35 is another of the Air Force's top three acquisition priorities. Like the LRS-B, the F-35 program will deliver capability that is needed for both the conventional and non-strategic nuclear missions. In both cases, the incremental cost of adding nuclear capability to the conventional platform is a very small portion of its total cost.

The Long-Range Stand-Off (LRSO) cruise missile is essential to ensuring our deterrent remains effective. It will be compatible with legacy B-2 and B-52 aircraft, as well as the future LRS-B. The LRSO is a necessary replacement for the current ALCM, which is the United States' only air-launched, long-range standoff nuclear capability. The ALCM remains effective but it cannot be sustained forever.

The LRSO plays a critical and multifaceted role in our strategy. It will be an essential element of our assured second strike capability, carried by a strategic bomber force that is survivable once alerted. The LRSO will ensure our ability to penetrate adversary air defenses far into the future, and preserve the ALCM's essential contribution to the range of strike options the President has for responding to a limited or large scale failure of deterrence. Without the LRSO our most comparable response option would require an aircraft carrying gravity bombs to overfly its target, putting both crew and mission at significant risk.

Preserving credible response capabilities in this way is an important aspect of sustaining an effective deterrent against nuclear attack. Bomber aircraft will continue to provide visible assurance to our allies that our extended deterrence guarantees are credible. LRSO-armed bombers demonstrate to our allies that adversary efforts to deny us access to their regions will fail. The LRSO will also provide a rapid and flexible hedge against changes in the strategic environment and against limitations of the other two legs of the Triad, including technological changes in adversary capabilities that might negate other elements of our strategic deterrent.

The penetrating LRSO cruise missile and the penetrating LRS-B provide complementary capabilities, and neither can fully substitute for the other. As a system-of-systems, they offer both quantitative and qualitative advantages. Arming a penetrating bomber with the LRSO multiplies the number of penetrating targets each bomber presents to an adversary seeking to deny access. Our potential adversaries' air defenses constitute a layered threat environment where different capabilities provide varied confidence levels of penetration. The challenge is further heightened by the need to be able to credibly challenge adversary defenses not just as they exist today, but as they evolve into the future. A penetrating bomber that can carry a penetrating missile imposes an extremely difficult, multi-azimuth air defense problem on our potential adversaries. It maximally expands the accessible space of targets that can be held at risk, and reduces the threat to our limited and expensive strategic platforms. Finally, the LRSO will ensure that the heavy bomber force offers an effective deterrent capability long after the aircraft's ability to penetrate diminishes.

Similarly, the B61 gravity-bomb provides capabilities that complement the cruise missile system, and neither can fully substitute for the other. The B61-12 LEP will sustain our ability to forward-deploy nuclear weapons with tactical aircraft as well as strategic bombers. It is a central

component of our commitment to extended deterrence and assurance, particularly in NATO. In its strategic role, the B61-12 is essential for sustaining the B-2's contribution to our nuclear forces until the LRSO is deployed. Finally, air-delivered gravity bombs provide the President unique flexibility in signaling resolve and controlling escalation due to the possibility of redirecting or recalling the aircraft up to the moment of weapon release above the target.

The B61-12 is also an important early step towards implementing the 3+2 plan. Four existing strategic and tactical variants of the B61 gravity bomb will be replaced with a single weapon design. Along with fewer weapon types and an attendant reduction in maintenance and surveillance, the end result will be significantly fewer weapons and lower net explosive yield in the stockpile without reducing our deterrent capabilities.

**CONCLUSIONS**

In summary, nuclear weapons play a critical role in our overall national security strategy, and will continue to play a critical role in any future strategy for as long as nuclear weapons exist. As a result, we have developed and are implementing a viable plan for sustaining and modernizing our nuclear forces. These capabilities support policy objectives by enabling options the President needs to reinforce the credibility of our strategy, and so enable effective deterrence. In order for the plan to succeed, we must also have commensurate and stable funding, and we must maintain consistent high-level focus on the nuclear mission. Sustaining stable and robust nuclear deterrence in this way allows a steady approach to the persistent and evolving strategic challenges we face today and will face in the years to come. Thank you for the opportunity to testify. I look forward to your questions.

**Robert M. Scher**

**Assistant Secretary of Defense for Strategy, Plans, and Capabilities**

CURRENT ASSIGNMENT: Mr. Robert Scher was appointed as the first Assistant Secretary of Defense for the new Office of Strategy, Plans, and Capabilities in December 2014. Mr. Scher is responsible for advising the Secretary of Defense and the Under Secretary of Defense for Policy on: national security and defense strategy; the forces and contingency plans necessary to implement defense strategy; nuclear deterrence and missile defense policy; and security cooperation plans and policies.

PAST EXPERIENCE: Mr. Robert Scher previously served as the Deputy Assistant Secretary of Defense for Plans within the Office of the Deputy Under Secretary of Defense for Strategy, Plans, and Forces. In this role, he oversaw the development of guidance for military campaign and contingency plans, the processes for reviewing and assessing these plans, and the development and implementation of U.S. global defense posture. Prior to serving as DASD Plans, Mr. Scher was the Deputy Assistant Secretary for South and Southeast Asia within the Office of the Assistant Secretary of Defense for Asian and Pacific Security Affairs. In this capacity, Mr. Scher served as the principal advisor to senior leadership within the Department of Defense for all South and Southeast Asia policy matters pertaining to strategies and plans, including international strategy development, and implementation. He was responsible for managing the bilateral security relationships with the nations of this region and spearheaded DoD participation in regional multilateral fora.

Prior to his first appointment in 2009, Mr. Scher was an associate at the consulting firm of Booz Allen Hamilton where he led efforts to assist Asian nations in improving their defense and national security decision making processes. He also led analytical efforts supporting the Office of the Secretary of Defense (OSD) on strategy development and Asia-related issues. Earlier, Mr. Scher worked for 15 years in the Departments of Defense and State, and held numerous posts covering Asian security and defense policy issues. He served as Chief-of-Staff to the Deputy Under Secretary of Defense for Asian and Pacific Affairs in the Office of the Secretary of Defense, overseeing the operation of the OSD office responsible for bilateral and multilateral security relations in Asia. Additionally, Mr. Scher helped develop the strategic basis for U.S. defense strategy, participating in the oversight of the 1993 Bottom-Up Review and the 1997 Quadrennial Defense Review. He co-authored Presidential Decision Directive-56 on conducting complex contingency operations, and was involved in planning for U.S. support to operations ranging from Iraqi election support to deploying U.S. forces to East Timor and the southern Philippines. While at the Department of State, he served on the Secretary's Policy Planning Staff providing advice on Asia, counterterrorism and political military affairs. Mr. Scher entered government service through the Presidential Management Fellowship Program.

EDUCATION: Mr. Scher has a Bachelor of Arts from Swarthmore College, conferred with High Honors, and a Masters of International Affairs from Columbia University's School of International and Public Affairs, where he was awarded a DuPont International Affairs Fellowship.

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House Armed Services Committee

Testimony

Before the

Strategic Forces Subcommittee

Committee on Armed Services

U.S. House of Representatives

# Fiscal Year 2016 Budget Request for Nuclear Forces

Witness Statement of Dr. Arthur T. Hopkins,

Principal Deputy Assistant Secretary of Defense for

Nuclear, Chemical, and Biological Defense Programs

April 15, 2015

Chairman Rogers, Ranking Member Cooper, and distinguished members of the Subcommittee, thank you for the opportunity to testify before you today on the FY 2016 budget request for nuclear forces. I am pleased to join Assistant Secretary Scher, Admiral Benedict, and General Harencak to discuss the Department of Defense's (DoD) most vital mission: maintaining a safe, secure, and effective nuclear deterrent for as long as nuclear weapons exist. As the Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs and Nuclear Weapons Council Staff (NWC) Director, I work for the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) and advise the Department's senior leadership on nuclear matters. The Under Secretary has a dual role in overseeing systems acquisition in the nuclear enterprise: leading the Department's efforts to acquire the strategic delivery systems for nuclear weapons in order to meet the operational needs of our Armed Forces, and leading the NWC to address acquisition issues related to nuclear warheads and sustainment and infrastructure modernization. The NWC is a joint DoD and Department of Energy (DOE)/National Nuclear Security Administration (NNSA) organization established to facilitate cooperation and coordination, reach consensus, and institute priorities between the two departments as they fulfill their responsibilities for U.S. nuclear weapons stockpile management. To ensure the continued credibility of our nuclear deterrent, it is essential that Congress supports the President's FY 2016 budget request for nuclear weapons-related activities. Today, I will summarize the DoD and NWC perspectives on, and priorities for, warhead life extension, nuclear weapon delivery platforms modernization and replacement, modernization of the nuclear enterprise infrastructure, our ability to sustain the stockpile, and the challenges we face today and tomorrow to sustain a safe, secure, effective, and reliable nuclear stockpile.

**Nuclear Enterprise Challenges**

The NWC convenes approximately monthly to ensure focused attention on nuclear enterprise challenges in four vital areas. First, we must maintain and strengthen our ability to extend the life of warheads through comprehensive component reuse, refurbishment, and replacement, and ensure alignment with delivery platforms (Table 1 summarizes the current and future nuclear weapons stockpile). Second, we must safeguard our ability to provide the intensive science and engineering required to assess an aging stockpile and certify the safety and effectiveness without nuclear testing. Third, we must remain steadfast in our commitment to sustain and modernize our aging infrastructure that provides materials, components, and testing facilities essential to our nuclear deterrent enterprise. And fourth, the DoD must address the challenges of sustaining and modernizing all parts of our nuclear force structure, and we must ensure that our nuclear weapons sustainment programs and delivery system modernization programs are aligned and funded.

*Table 1. The Current and Future Triad Composition*

| | ICBM | SLBM | Air-Leg |
|---|---|---|---|
| | ***Current*** | | |
| *Weapon System* | W87 Warhead<br>W78 Warhead | W76 Warhead<br>W88 Warhead | B61 Bomb<br>B83 Bomb<br>W80-1 Warhead |
| *Delivery Platform* | Minuteman III | Trident II D5 | B-2A<br>B-52H<br>F15/F16<br>ALCM[1] |
| | ***Future*** | | |
| *Weapon System* | W78/88-1 IW-1[2]<br>IW-2<br>IW-3 | W78/88-1 IW-1<br>IW-2<br>IW-3 | B61-12 Bomb<br>W80-4 Warhead |
| *Delivery Platform* | GBSD[3] | D5 Follow-on | B-2A<br>B-52H<br>JSF[4]<br>LRSB[5]<br>LRSO[6] |

**DoD Stockpile Requirements**

[1] Air-Launched Cruise Missile
[2] Interoperable Warhead
[3] Ground-Based Strategic Deterrent
[4] Joint Strike Fighter
[5] Long Range Strike Bomber
[6] Long Range Standoff

The NWC envisions a future that is flexible and adaptable to technical and geopolitical changes, and to achieve this, they endorsed the 3+2 stockpile strategy. This strategy includes three interoperable nuclear explosive packages for ballistic missiles and two air-delivered warheads; interoperability will reduce the number of different systems that must be maintained and serviced, while providing sufficient diversity among deployed systems. The 3+2 strategy addresses stockpile obsolescence and meets policy objectives of sustaining deterrence through a smaller stockpile with fewer weapon types and a modernized, responsive nuclear infrastructure capable of addressing technological and geopolitical surprise.

To support the 3+2 strategy and revitalize the enterprise, the NWC created a 25-year plan for the nuclear weapons stockpile – also known as the Baseline Plan – that aligned warhead life extension plans and infrastructure needs with ongoing platform modernization and replacement efforts. The coordinated Baseline Plan integrated NNSA nuclear security enterprise requirements and plans with military requirements.

Budget realities have forced changes to the Baseline Plan since it was adopted. In 2012, the NWC endorsed deferrals to key warhead life extension programs (LEPs) and infrastructure modernization milestones, delaying implementation of the 3+2 strategy. They delayed the Interoperable Warhead 1 (IW1) and the Long Range Standoff (LRSO) warhead schedules. For the B83-1 bomb, they adjusted the deployment requirement. For the B61-12 bomb LEP, they accepted a schedule delay due to the sequestration cuts in the FY 2014 budget. Plutonium pit production schedules and supporting plutonium infrastructure investments experienced significant delays due to shortfalls in the FY 2013 and FY 2015 budgets.

DoD and NNSA are moving forward with several weapon systems LEPs to support the Nation's long-term deterrent capabilities. The W76-1 warhead for the submarine-launched ballistic missile (SLBM) and the B61-12 bomb for the air-delivery systems are the most urgent

warhead life-extension needs in our stockpile, and the FY 2016 President's budget request fully funds these LEPs. The W76-1 LEP is beyond the halfway mark on production and is on-schedule to complete in FY 2019. The B61-12 LEP with the Air Force-provided Tailkit Assembly is undergoing development engineering and remains on schedule and budget to meet its March 2020 First Production Unit (FPU). The Air Force has funded the tail kit development and production to synchronize with NNSA bomb assembly work. The B61-12 LEP consolidates four variants of the B61 bomb and improves the safety and security of the oldest nuclear weapon system in the U.S. arsenal. The B61-12 LEP will: 1) result in a nearly 50 percent reduction in the number of nuclear gravity bombs in the stockpile, 2) facilitate the removal of a megaton-class weapon—the B83-1, 3) achieve an 80 percent reduction in the amount of special nuclear material in those bombs, and 4) implement the first step of the 3+2 strategy. These missions support both our deterrent and nonproliferation objectives as outlined in the President's 2010 Nuclear Posture Review.

The FY 2016 budget also funds expanded work on sustaining our W88 SLBM warhead, which is undergoing development engineering to replace the aging arming, fuzing, and firing system. That program is on schedule to achieve its December 2019 FPU. In August 2014, the NWC agreed to address potential conventional high explosive (CHE) scope for the W88. Based on the results of extensive review by our national laboratories, NNSA, and the Navy, the NWC made the decision to refresh the W88 CHE and identified the majority of funding offsets needed for this work. Offsets were generated by reducing sustainment activities and hedge quantities for some legacy systems. That decision identified areas where increased risk could be accepted to produce cost-savings within the current program – without additional funding – and without additional delays to future work.

The IW1, also known as the W78/88-1 LEP, will be the first of three ballistic missile warheads under the 3+2 strategy. The IW1 was delayed from FY 2025 as part of the FY 2015 budget request and is now scheduled for a 2030 FPU. A full feasibility study is planned for completion in the early 2020s. The Services committed to continued participation in the program and will plan and program for the restart accordingly.

Over the last two years, the NWC evaluated and then selected the follow-on warhead for the Air-Launched Cruise Missile replacement, the LRSO cruise missile. The W80 Nuclear Explosive Package will serve as the basis for the LRSO warhead, and the warhead LEP is now designated the W80-4. The W80-4 FPU is planned for 2025 with the first LRSO cruise missile to be achieved in 2026.

Although we have made some difficult decisions in building this budget and have taken short-term risks, we believe those risks are acceptable. The NWC believes it is imperative that Congress support the full NNSA budget request to ensure national security requirements continue to be met. The greatest challenge for the NWC is to achieve and maintain the necessary funding balance among three critical nuclear areas. To allow continued certification and ensure our nuclear weapons remain safe, secure, and effective, we must be vigilant in preserving stockpile science and engineering; sustaining and life-extending our stockpile; and sustaining and modernizing the aging nuclear enterprise infrastructure.

**DoD Platform Requirements**

In accordance with the Nuclear Posture Review's guidance to maintain a triad under the New START agreement with the Russian Federation, DoD has a robust plan for recapitalizing the Intercontinental Ballistic Missiles (ICBMs), SLBMs, and nuclear-capable heavy bombers that compose our strategic nuclear deterrent. Our budget request is consistent with our plans to ensure that current nuclear delivery systems will be sustained and that the modernization and

replacement programs are executable and on schedule to avoid capability gaps. In FY 2016, DoD will continue to fund: the OHIO class replacement submarine and Trident II D-5 missile life extension; the follow-on capability to the Minuteman III ICBM—the Ground-Based Strategic Deterrent (GBSD); upgrades to the B-2 and B-52H heavy bombers; and development of a LRSO missile to replace the current air-launched cruise missile.

The OHIO Replacement Program requires adequate resources and a stable, predictable funding profile to ensure the on-time construction start in FY 2021 in order to meet the deterrence patrol need date of FY 2031. The OHIO Replacement Program submarines will have a service life that will enable patrols into the 2080s. There is no margin left in the OHIO Replacement schedule. DoD cannot let the program slip any further or we risk the most survivable leg of the Nation's nuclear triad.

The Air Force has conducted a GBSD Analysis of Alternatives to study the full range of options to recapitalize the land-based leg of the Triad beyond the extended service life of the Minuteman III missile. The FY 2016 budget continues to fund this preparatory work. The Air Force's FY 2016 budget request also includes funding to continue the development of an affordable, long range, penetrating aircraft that incorporates proven technologies—the Long Range Strike Bomber. Additionally, the FY 2016 budget includes funding for Block 4 of the F-35 program, which provides research and development funds to support nuclear capability for the aircraft. This F-35 program will deliver capability that is needed for non-strategic nuclear missions in support of our extended deterrence and assurance commitments. Finally, as I mentioned earlier, the FY 2016 budget also includes funding to continue the development of the LRSO missile.

The Department's budget request is consistent with plans to ensure that current nuclear delivery systems can be sustained and that the modernization and replacement programs are

affordable, executable, and on schedule to avoid capability gaps. The replacement programs create a bow-wave in nuclear delivery system costs, and modernization will require increased investment over current levels for much of the next 15 years. The Defense Department is taking steps to control the costs of these efforts. However, even with success in this regard, we face difficult budget choices entering the 2020s to fund the necessary OHIO-Class Replacement and the Air Force strategic deterrent recapitalization programs.

**DoD Nuclear Enterprise Reviews**

Last year's Secretary of Defense-directed Nuclear Enterprise and Strategic Portfolio Reviews and the Program and Budget Review for the FY 2016 budget formulation focused significant attention on recapitalization, sustainment, and modernization of our nuclear deterrent systems and infrastructure. The Nuclear Enterprise Review highlighted evidence of systemic problems in the strategic deterrent forces that threaten the future safety, security, and effectiveness of our nuclear forces. These interrelated problems require cultural, structural, and sustained long-term solutions. We are addressing these issues and implementing solutions managed through monthly senior leadership meetings of the Nuclear Deterrent Enterprise Review Group chaired by Deputy Secretary of Defense Work. The review teams made clear the need to refocus attention and resources at all levels of the DoD on this essential mission. The reinvigoration of the DoD nuclear enterprise remains the Defense Department's highest priority, and we are committed to treating it as such.

Current resource levels, however, challenge our ability to fund these modernization efforts. In the near-term, we are making focused and sustained investments in modernization and manning across the nuclear enterprise. These investments are critical to ensure the continued safety, security, and effectiveness of our nuclear deterrent, as well as the long-term health of the force that supports our nuclear triad. To help fund improvements across the nuclear enterprise,

the DoD has requested an increase of approximately $1 billion in FY 2016 to address issues such as ICBM security and manpower increases at the Navy's shipyards and Strategic Weapons Facilities. Additionally, the Department has projected the need for about $8.5 billion over the FYDP to ensure the continued health of this essential enterprise.

**Revitalizing the Nuclear Infrastructure**

The 2010 Nuclear Posture Review stressed the importance of an NNSA infrastructure that can respond to technical challenges or geopolitical surprises and ultimately enable our consideration of stockpile reductions. The NWC focuses specifically on the plutonium, uranium, and tritium capabilities to support the current and future stockpile as documented in the NWC's Baseline Plan. Our nuclear enterprise infrastructure challenges are two-fold: addressing aged, end-of-life facilities maintenance, recapitalization, and replacement, and working to achieve a responsive infrastructure. The Department reinforces NNSA's need to fully develop responsive and productive plutonium and uranium capabilities for this Nation as well as the ability to produce tritium.

**Stockpile Stewardship**

Science is paramount to the NWC's ability to sustain a safe, secure, reliable, and effective deterrent. The Stockpile Stewardship Program has ensured our confidence in the reliability and effectiveness in the nuclear stockpile without nuclear weapons testing. NNSA's Stockpile Stewardship Program, composed of research, development, testing, and evaluation (RDT&E) facilities and personnel, enables the surveillance and assessment of the stockpile condition by revealing anomalies, evaluating impacts of anomalies on warhead performance, and implementing solutions. In general, RDT&E supports broader national security objectives by

providing capabilities to avoid technological surprise and to have confidence in system performance. The NWC Baseline Plan relies on continued investments in research, development, design, and production capabilities – something that sequestration threatens.

**Conclusion**

Budget constraints have forced the DoD to annually adjust its stockpile maintenance and infrastructure plans to fit within resources appropriated. These adjustments cause delays and cancellations, reduce work scope, and extend development and production periods. We have reached a point where we have removed all flexibility from the nuclear weapons life extension programs, and we are losing flexibility in our platform modernization programs. We must continue to field a strong nuclear deterrent that is supported by an agile and responsive infrastructure and valued workforce. The President's FY 2016 Budget Request supports our nuclear posture strategy for defending U.S. vital interests. It increases funding for sustaining and modernizing our nuclear forces to ensure a safe, secure, and effective deterrent for as long as nuclear weapons exist. The Department of Defense remains committed to its close and vital partnership with DOE and Congress in meeting the Nation's most fundamental security needs. In closing, I respectfully ask that you support the President's FY 2016 budget request.

**Dr. Arthur T. Hopkins**
**Acting Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs**

The Acting Principal Deputy Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs provides technical advice, operational perspective, and management support on all aspects of the ASD(NCB) portfolio, including nuclear matters, chemical and biological defense programs, chemical demilitarization, cooperative threat reduction, arms control, and countering weapons of mass destruction.

STATEMENT

OF

VICE ADMIRAL TERRY BENEDICT, USN

DIRECTOR, STRATEGIC SYSTEMS PROGRAMS

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

FY2016 BUDGET REQUEST FOR NUCLEAR FORCES

15 APRIL 2015

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

**Introduction**

Chairman Rogers, Ranking Member Cooper, distinguished Members of the subcommittee, thank you for this opportunity to discuss the Navy's strategic programs. It is an honor to testify before you this afternoon representing the Navy's Strategic Systems Programs (SSP).

SSP's mission is to design, develop, produce, support, and ensure the safety of our Navy's sea-based strategic deterrent, the Trident II (D5) Strategic Weapons System (SWS). The men and women of SSP and our industry partners remain dedicated to supporting the mission of our Sailors on strategic deterrent patrol and our Marines, Sailors, and Coast Guardsmen who are standing the watch, ensuring the security of the weapons we are entrusted with by this nation.

The Navy provides the most survivable leg of the U.S. nuclear triad with our ballistic missile submarines (SSBNs) and the Trident II (D5) SWS. A number of factors have contributed to an increased reliance on the sea-based leg of the triad. The 2010 Nuclear Posture Review reinforced the importance of SSBNs and the Submarine Launched Ballistic Missiles (SLBMs) they carry. SLBMs will comprise a significant majority of the nation's operationally deployed nuclear warheads, thus increasing the nation's reliance on the sea-based leg of the nuclear triad. The Chief of Naval Operations (CNO) and Vice Chief of Naval Operations have recently testified that the Navy's number one priority is to maintain a credible, modern, and survivable sea-based strategic deterrent. Maintaining our Nation's capability in this key mission area includes the proper funding of the OHIO Replacement Program – along with the propulsion and the SWS – it is "The Navy's #1 acquisition program."

Ensuring sustainment of the sea-based strategic deterrent capability is a vital national requirement today and into the foreseeable future. Our PB-16 budget request provides required funding to support the program of record in fiscal year (FY) 2016 for the Trident II (D5) SWS. To sustain this capability, I am focusing on my top priorities: Nuclear Weapons Safety and Security; the Trident II (D5) SWS Life Extension Program;

the OHIO Replacement Program; the Solid Rocket Motor (SRM) Industrial Base; the implementation of the Nuclear Enterprise Review recommendations; the newly codified Navy Nuclear Regulatory responsibility; and Collaboration with the Air Force.

**Nuclear Weapons Safety and Security**

The first priority, and the most important, is the safety and security of the Navy's nuclear weapons. Accordingly, Navy leadership clearly delegated and defined SSP's role as the program manager and technical authority for the Navy's nuclear weapons and nuclear weapons security.

At its most basic level, this priority is the physical security of one of our nation's most valuable assets. Our Marines and Navy Masters at Arms provide an effective and integrated elite security force at our two Strategic Weapons Facilities and Waterfront Restricted Areas in Kings Bay, Georgia and Bangor, Washington. U.S. Coast Guard Maritime Force Protection Units have been commissioned at both facilities to protect our submarines as they transit to and from their dive points. These Coast Guardsmen and the vessels they man provide a security umbrella for our OHIO Class submarines. Together, the Navy, Marine Corps, and Coast Guard team form the foundation of our Nuclear Weapons Security Program, and my headquarters staff ensures that our nuclear weapons capable activities continuously meet or exceed security, safety, and compliance criteria.

SSP's efforts to sustain the safety and improve the security of these national assets continue at all levels of the organization. The Navy's nuclear weapons enterprise maintains a culture of self-assessment in order to sustain safety and security. This is accomplished through biannual assessments by SSP headquarters staff, periodic technical evaluations, formal inspections, and continuous on-site monitoring and reporting at the Strategic Weapons Facilities. Technical evaluations, formal inspections, and on-site monitoring at the Strategic Weapons Facilities provide periodic and day-to-day assessment and oversight. Biannual assessments evaluate the ability of the organization to self-assess the execution of the assigned strategic weapons mission and compliance with requirements. The assessments leverage information gained from these oversight activities. The results of these biannual assessments are critically and independently reviewed through the Navy Nuclear Weapons Assessment and provided to the Secretary of the Navy and the CNO.

We also strive to maintain a culture of excellence to achieve the highest standards of performance and integrity for personnel supporting the strategic deterrent mission. We continue to focus on the custody and accountability of the nuclear assets that have been entrusted to the Navy. SSP's number one priority is to maintain a safe, secure, and effective strategic deterrent.

**D5 Life Extension Program**

The next priority is SSP's life extension efforts to ensure the Trident II (D5) SWS remains an effective and reliable sea-based deterrent. The Trident II (D5) SWS continues to demonstrate itself as a credible deterrent and exceeds the operational requirements established for the system over 30 years ago. The submarine leg of the U.S. strategic deterrent is ready, credible, and effective, thereby assuring our allies and partners and deterring potential adversaries. However, we must remain vigilant about age-related issues to ensure a continued high level of reliability.

The Trident II (D5) SWS has been deployed on our OHIO Class ballistic missile submarines for 25 years and is planned for a service life of 50 years. This is well beyond its original design life of 25 years and more than double the historical service life of any previous sea-based strategic deterrent system. As a result, effort will be required to sustain credible SWS from now until the end of the current OHIO Class SSBN in the 2040s, as well as the end of the service life of the OHIO Replacement SSBN in the 2080s.

The Navy is proactively taking steps to address aging and technology obsolescence. SSP is extending the life of the Trident II (D5) SWS to match the OHIO Class submarine service life and to serve as the initial baseline mission payload for the OHIO Replacement submarine platform. This is being accomplished through an update to all the Trident II (D5) SWS subsystems: launcher, navigation, fire control, guidance, missile, and reentry. Our flight hardware - missile and guidance - life extension efforts are designed to meet the same form, fit, and function of the original system to keep the deployed system as one homogeneous population, control costs, and sustain the

demonstrated performance of the system. We will remain in continuous production of large energetic components such as solid rocket motors and Post Boost Control System Gas Generators, and are starting an age management replacement effort for missile small ordnance and control components. We have also started initial planning on the timing of when a follow-on to Trident II (D5) will be needed. These efforts will provide the Navy with the missiles and guidance systems we need to meet operational requirements through the introduction and deployment of the OHIO Replacement SSBNs through the 2080s.

While budgetary pressures and impacts of sequestration have resulted in some deferred or delayed efforts, strategic deterrence remains the Navy's highest priority. As such, the Navy is committed to minimizing, to the maximum extent possible, impacts to this program in order to meet strategic requirements.

One impacted effort is the change to our flight test program. In accordance with Strategic Command (STRATCOM) requirements, the Navy is required to flight test a minimum of four Trident II (D5) missiles per year in a tactically-representative environment. The purpose of flight testing is to detect any change in reliability or accuracy. The FY 2016 budget request reflects a reduction of one planned flight test for affordability. The Navy has coordinated with STRATCOM to determine that this temporary reduction is manageable in the short-term, contingent upon our plan to ramp back up to four flight tests per year later in the Future Years Defense Program (FYDP). A prolonged reduction beyond what is planned in FY 2016 would impact our ability to detect changes in reliability and accuracy of an aging system with the required degree of statistical confidence to meet STRATCOM requirements. I am strongly committed to ensure our flight testing returns to four flight tests per year.

Despite budgetary pressures, the Navy's D5 life extension program remains on track. In June 2014, the USS WEST VIRGINIA (SSBN 736) successfully conducted her Demonstration and Shakedown Operation (DASO 25) by launching two missiles. One missile marked the third flight test of the D5 life-extended (LE) guidance system and the second flight test of the D5 LE Command Sequencer. The second missile was the first

flight of the D5 LE Flight Controls Electronics Assembly and Interlocks packages. Additionally, the first flight test of the D5 LE guidance system with the D5 LE Flight Controls Electronics Assembly and Interlocks packages is scheduled for DASO 26 in FY 2016. The D5 LE Command Sequencer met its initial fleet introduction earlier this year. The life extension efforts for the remaining electronics packages are on budget and on schedule. The life-extended missiles will be available for initial fleet introduction in FY 2017.

Another major step to ensure the continued sustainment of our SWS is the SSP Shipboard Integration (SSI) Programs, which address obsolescence management and modernization of SWS shipboard systems through the use of open architecture design and commercial off-the-shelf hardware and software. The first increment of this update was installed on the final U.S. SSBN in April of last year. This completed installation on all fourteen U.S. SSBNs, all four UK SSBNs and all U.S. and UK land-based facilities. Subsequent increments of this program begin installation this summer. The SSI Program includes refreshes of shipboard electronics hardware and software upgrades, which will extend service life, enable more efficient and affordable future maintenance of the SWS and ensure we continue to provide the highest level of nuclear weapons safety and security for our deployed SSBNs while meeting STRATCOM requirements.

To sustain the Trident II (D5) SWS, SSP is extending the life of the W76 reentry system through a refurbishment program known as the W76-1. The W76-1 refurbishment maintains the military capability of the original W76 for an additional 30 years. This program, which is being executed in partnership with the Department of Energy, National Nuclear Security Administration (NNSA), has completed over 50 percent of the planned warhead production. The Navy will continue to work with NNSA to closely monitor production and deliveries to ensure there are no operational impacts.

In addition, the Navy continues the design work to refurbish the aging electronics in the W88 reentry system. The Navy is collaborating with the Air Force to reduce costs through shared subsystems suitable for the W88/Mk5 and the W87/Mk21. Additionally, the Nuclear Weapons Council (NWC) has approved the inclusion of conventional high

explosive refurbishment as part of this effort which will support deployment of the W88/Mk5 into the early 2040s. As directed by the NWC, we have submitted funding requests to support the initial concept studies (6.2/6.2A) for an Interoperable Warhead (IW) to begin in 2020. The Navy believes that the NWC is effective at managing and identifying priorities for the nuclear weapons stockpile. Moreover, the Navy is fully represented at the NWC and has every opportunity to raise any issues directly with the NWC when necessary. Therefore, I do not recommend a separate Service vote at the NWC.

**OHIO Replacement Program**

The Navy's highest priority acquisition program is the OHIO Replacement Program, which replaces the existing OHIO Class submarines. The continued assurance of our sea-based strategic deterrent requires a credible SWS, as well as the development of the next class of ballistic missile submarines. The Navy is taking the necessary steps to ensure the OHIO Replacement SSBN is designed, built, delivered, and tested on time with the right capabilities at an affordable cost.

To lower development costs and leverage the proven reliability of the Trident II (D5) SWS, the OHIO Replacement SSBN will enter service with the Trident II (D5) SWS and D5 LE missiles onboard. These D5 LE missiles will be shared with the existing OHIO Class submarine until the current OHIO Class retires. Maintaining one SWS during the transition to the OHIO Class Replacement is beneficial from a cost, performance, and risk reduction standpoint. A program to support long-term SWS requirements will have to be developed in the future to support the OHIO Class Replacement SSBN through its entire service life.

The Navy continues to leverage from the VIRGINIA Class program to implement lessons-learned and ensure the OHIO Replacement Program pursues affordability initiatives across design, construction, and life cycle operations and support. Several critical milestones and decisions were achieved by the SSBN design team as they progress the design of the OHIO Replacement. Maintaining the pace of design and

submarine industrial capability is critical to the continued success of our sea-based strategic deterrent now and well into the 2080s.

A critical component of the OHIO Replacement Program is the development of a Common Missile Compartment (CMC) that will support Trident II (D5) deployment on both the OHIO Class Replacement and the successor to the UK VANGUARD Class. As the UK will be the first to test, launch, and deploy the Trident II (D5) system in a CMC, the U.S.-led design team is progressing at pace to support the UK Successor lead ship construction timeline. In 2014 the U.S. contracted for the first joint procurement of missile tubes to support building the U.S. prototype Quad-pack module, the Strategic Weapons System – Ashore (SWS Ashore) test site, and the UK's first SSBN. The joint CMC effort is shifting from design to construction that will support production in both U.S. and UK build yards. Any delay to the common missile compartment effort has the potential to impact the UK's ability to maintain a continuous at sea deterrent posture.

To manage and mitigate technical risk to both the U.S. and UK programs, SSP is leading the development of SWS Ashore integration test site at Cape Canaveral, Florida. This is a joint effort with the Navy and the State of Florida investing in the re-development of a POLARIS site to conduct integration testing and verification for OHIO Replacement and UK Successor programs. Refurbishment of the POLARIS site and construction of the infrastructure and building is proceeding at a rapid pace. Trident II (D5), OHIO Class, and OHIO Replacement new design hardware will be co-located and integrated to prove the successful re-host and redeployment of the Trident II (D5) SWS on the new submarines. To mitigate the restart of launch system production, SSP recently broke ground on a surface launch facility at the Naval Air Station, China Lake, California. This facility will prove that the launcher industrial base can replicate the performance of the OHIO Class Trident II (D5) launch system. We will be launching the refurbished Trident II (D5) test shapes we used in the 1980s starting in FY 2017. Launch performance is a critical factor we must understand at the systems level to ensure we maintain high reliability as we transition the weapon system to the next class of SSBNs.

The U.S. and the UK have maintained a shared commitment to nuclear deterrence through the Polaris Sales Agreement since April 1963. As the Director of SSP, I am the U.S. Project Officer for the Polaris Sales Agreement. Our programs are tightly coupled both programmatically and technically to ensure we are providing the most cost effective, technically capable nuclear strategic deterrent for both nations. Last year, marked the 51st anniversary of this agreement, and I am pleased to report that our longstanding partnership with the UK remains strong. The U.S. will continue to maintain its strong strategic relationship with the UK as we execute our Trident II (D5) LE Program and develop the common missile compartment. Our continued stewardship of the Trident II (D5) SWS is necessary to ensure a credible and reliable SWS is deployed today on our OHIO Class submarines, the UK VANGUARD Class, as well as in the future on our respective follow-on platforms. This is of particular importance as the New START Treaty reductions are implemented, increasing the reliance on the sea-based leg of the Triad. The OHIO Replacement will be a strategic, national asset whose endurance and stealth will enable the Navy to provide continuous, uninterrupted strategic deterrence well into the 2080s.

**Solid Rocket Motor (SRM) Industrial Base**

A priority is the importance of the defense and aerospace industrial base, in particular, the solid rocket motor industry. I remain concerned with the decline in demand for solid rocket motors. While the Navy is maintaining a continuous production capability at a minimum sustaining rate of twelve rocket motor sets per year, the demand from both NASA and Air Force has precipitously declined. Not only did this decline result in higher costs for the Navy, as practically a sole customer, but it also put an entire specialized industry at risk for extinction – or at least on the "endangered species list." To allow this puts our national security at risk. The Navy cannot afford to singularly carry this cost, nor can our nation afford to lose this capability. While the efforts of our industry partners and others have created short-term cost relief, the long-term support of the solid rocket motor industry remains an issue that must be addressed at the National level. To date, this has not happened. At SSP, we will continue to work with our

industry partners, DoD, senior NASA leadership, Air Force and Congress to do everything we can to ensure this vital national security industry asset is preserved.

**Nuclear Enterprise Review**

The recent Secretary of Defense–directed Nuclear Enterprise Review (NER) and the Program and Budget Review for the FY 2016 budget formulation focused significant attention on the recapitalization, sustainment, and modernization of our nuclear deterrence systems and infrastructure. The NER provided the Navy a thorough and unbiased look at our nuclear forces. Overall, the report found that the nuclear enterprise is safe, secure, and effective today but it also found evidence of systemic problems that, if not addressed, could undermine the safety, security, and effectiveness of elements of the force in the future. Fortunately the Navy's internal Nuclear Weapons Assessment and the SSP Comprehensive Self-Assessment identified most of the issues underscored during the NER. In fact, the report validated numerous efforts already underway.

The Navy has taken active steps to address the more than 68 recommendations with Navy equity contained in the report. Significant action has been taken to implement each recommendation, generally focused on a few key areas, including: oversight, investment, and personnel and training improvements. These implementation actions have been funded with an additional budget request of $407M in FY 2016 and $2.2B across the FYDP. With respect to oversight, the Navy is clarifying the nuclear deterrent enterprise leadership structure and reducing administrative burdens imposed on the forces. The Nuclear Deterrent Enterprise Group (NDERG), formed and led by the Secretary of Defense will provide regular oversight of the nuclear enterprise. The Navy Nuclear Weapons Oversight Council has become the Navy's mechanism to ensure NDERG recommendations and guidance are properly implemented and that investments achieve the intended effect.

Regarding training and personnel the Navy is planning a significant investment to build a margin in the deterrence force and clear the SSBN maintenance backlog. Some of the recommendations involve long-term cultural or organizational changes, and the Navy

has matched the right responsibilities with the right leaders. There will be an emphasis on the importance of the deterrence mission through updated vision statements, revised campaign plans, and methods to eliminate obstacles to enhance moral conduct and relieve the pressures on Sailors, training, and work-life balance. More specifically the Navy will apply additional resources to Strategic Mission personnel with a planned $28M and an increase of 44 Full Time Equivalents (FTE) in FY 2016. In addition 160 FTEs were added for the Strategic Weapons Facilities and TRIDENT Training Facility to improve sustainment and training of the ballistic missile submarine force.

The Navy has also planned a substantial increase in FTEs for the four Naval Public Shipyards. With an eventual target of 33,500 direct and reimbursable FTEs, the goal is to better match capacity with workload. In addition, some submarine maintenance will be outsourced to the private sector to ensure over capacity work does not result in deferred maintenance into the FYDP. Both of these actions result in an investment of $338M with an overall planned FYDP investment of $1.1B. There will be accelerated infrastructure improvements and recapitalization plans to ensure long-term sustainment at Shipyards and Strategic Weapons Facilities. The Navy accelerated investment in the budget request for FY 2016 from a 17 year plan to a 15 year plan to improve the condition of the Shipyards by adding $350M across the FYDP. The Navy has also funded $324M across the FYDP to address infrastructure issues at the Strategic Weapons Facilities. Navy is developing a 20 year investment plan to ensure the continued reliability of critical infrastructure at these facilities to support nuclear weapons movement and operations. While the Navy has made significant progress through actions taken to date, we recognize much work remains to be accomplished. The Navy is confident we have the right emphasis, oversight and processes in place to maintain a credible, modern, and safe sea-based deterrent.

**Navy Nuclear Regulatory Responsibility**

As a result of the Nuclear Enterprise Review the Navy implemented a centralized regulatory authority for nuclear force readiness. As the Director, Strategic Systems Programs (DIRSSP), I now have accountability, responsibility and authority to serve as

the single Flag Officer to monitor performance and conduct end-to-end assessment of the Navy Nuclear Deterrence Mission (NNDM) elements. These responsibilities are defined in SECNAVINST 8120.1B and OPNAVINST 8120.1. Nine Echelon 2 level commands directly contribute to the NNDM: US Fleet Forces Command (USFLTFORCOM), US Pacific Fleet (PACFLT), Fleet Cyber Command (USFLTCYBERCOM), Navy Supply Systems Command (NAVSUPSYSCOM), Naval Sea Systems Command (NAVSEASYSCOM), Chief of Naval Personnel (CNP), Bureau of Medicine and Surgery (BUMED), Commander, Navy Installations Command (CNIC), and SSP.

DIRSSP will be the NNDM regulatory authority responsible for assessing and reporting issues to the Navy Nuclear Weapons Council and the CNO. SSP is tasked with developing, coordinating, and implementing policies approved by the CNO, and conducting end-to-end assessments of the Department of the Navy nuclear weapons and nuclear weapons systems and personnel for safe, reliable, and effective execution of the NNDM.

SSP is engaged with the Echelon 2 commands defined above to understand their current reporting and assessment processes and to define the NNDM regulatory assessment policy. My next in-progress review for the CNO, April 2015, will define the existing reporting and engagement strategies, the status of our interaction with the commands, and present the initial component assessment and reporting.

**Collaboration with the Air Force**

The final priority is strategic collaboration between the Services. The Navy and the Air Force are both addressing the challenges of sustaining aging strategic weapon systems and have begun to work collaboratively to ensure these capabilities are retained in the long-term to meet our requirements. To do so, we are seeking opportunities to leverage technologies and make the best use of scarce resources.

As I testified last year, the Navy and the Air Force established an Executive Steering Group to identify and investigate potential collaboration opportunities and oversee collaborative investments for sustainment of our strategic systems. As a part of

this effort, technology area working groups are studying collaboration opportunities in the areas of Reentry Systems, Guidance, Strategic Propulsion, Command and Control, Radiation Hardened Electronics, Testing and Surveillance, and Nuclear Weapons Surety.

The Navy was an active participant in the Air Force's Ground Based Strategic Deterrent (GBSD) effort. Members of my staff were involved with this effort, which began during the GBSD Analysis of Alternatives (AoA). Navy subject matter experts supported each of the GBSD AoA working groups and participated in an effort to evaluate the benefits and potential risks of commonality and collaboration for each of the GBSD AoA options. Since the completion of the AoA, the Navy has continued to support the Air Force technical and programmatic efforts on GBSD including technology identification and requirements development.

The benefits of increased collaboration between the services are many. However, commonality is required to actually save costs. Commonality will help improve the affordability of the Nation's strategic services by eliminating redundant efforts and by improving economic order quantities of key constituents and components. In addition to the benefits gained by improved economic order quantities, the use of common constituents and components will make it easier for the Navy and Air Force to sustain the critical skills and capabilities needed by stabilizing demand signals to suppliers. Finally these efforts allow the Navy and Air Force to leverage work already being done by the other service to avoid unnecessary duplication and costs.

Each leg of the Triad has unique attributes. Furthermore, a sustained and ready Triad provides an effective hedge, allowing the nation to shift to another leg, if necessary due to unforeseen technical problems or vulnerabilities. For this reason, the Department is focused on cooperative efforts that maintain affordability and reduces risk to both services while retaining essential diversity where needed to ensure a credible and reliable deterrent. Many of the industries and required engineering skills sets are unique to strategic systems. Key to SSP's historical success has been our technical applications programs, which in the past have provided a research and development foundation. As

we evaluate maintaining this strategic capability until the 2080s to match the full service life of the OHIO Replacement submarine, we will need to resume these critical efforts.

**Conclusion**

SSP continues to maintain a safe, secure, and effective strategic deterrent and focus on the custody and accountability of the nuclear assets entrusted to the Navy. Our PB-16 budget request ensures that we will sustain this capability in FY 2016. However, we must remain vigilant about unforeseen age-related issues to ensure the high reliability required of our SWS. SSP must maintain the engineering support and critical skills of our industry and government team to address any future challenges with the current system as well as prepare for the future of the program. Our nation's sea-based deterrent has been a critical component of our national security since the 1950s and must continue to assure our allies and deter potential adversaries well into the future. I am privileged to represent this unique organization as we work to serve the best interests of our great Nation.

United States Navy
# Biography

## Vice Admiral Terry J. Benedict
## Director, Strategic Systems Programs

Vice Adm. Terry Benedict is assigned as director of the Navy's Strategic Systems Programs (SSP). Benedict's previous flag assignment was as program executive officer for Integrated Warfare Systems, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), Washington, D.C.

He transferred to the engineering duty officer community in 1985. Benedict reported to Strategic Systems Programs in 1988 as a lieutenant. He has had eight previous billets within SSP in numerous technical branches, a field tour at the Missile Manufacturing Facility and served as the deputy director/technical director.

Benedict also had two tours in Naval Sea Systems Command; as a systems engineer and as the executive assistant to the Commander.

Benedict graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science degree. He also holds a Master of Science in Engineering Science and a Master of Business Administration. He is a graduate of the Advanced Program Management Course at the Defense Acquisition University, the Executive Leadership Course at Carnegie Mellon, and is a certified Project Management Professional.

Benedict assumed command as the 13th director of Strategic Systems Programs, May 7, 2010 and was promoted to vice admiral, May 28, 2013.

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
U.S. HOUSE OF REPRESENTATIVES

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
U.S. HOUSE OF REPRESENTATIVES

SUBJECT: Air Force Nuclear Programs and Policies in the Fiscal Year 2016 Defense Authorization Request and Implementation of Nuclear Enterprise Review Recommendations

STATEMENT OF: Major General Garrett Harencak
Assistant Chief of Staff
Strategic Deterrence & Nuclear Integration
Headquarters, United States Air Force

April 15, 2015

**Introduction**

Chairman Rogers, Ranking Member Cooper, distinguished Members of the Subcommittee, thank you for the opportunity to discuss Air Force nuclear programs and policies.

As the Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, my team, on behalf of the Secretary and Chief of Staff of the Air Force, leads planning, policy development, advocacy, integration, and assessment for the Airmen and weapon systems performing Nuclear Deterrence Operations, a core function of the United States Air Force. In today's increasingly complex, multi-polar environment, the highly stabilizing deterrence and assurance effects provided by Air Force nuclear forces—intercontinental ballistic missiles (ICBMs), nuclear-capable bombers, and dual capable aircraft (DCA)— will continue to play a critical role in ensuring the security of the United States and assuring our allies and partners.

Throughout the 1990s and early 2000s, a confluence of forces contributed to an erosion of the nuclear mission within the Air Force. This period of decline was characterized by a loss of senior leader focus, fragmentation of responsibility, and chronic underinvestment in our personnel, weapon systems, and supporting infrastructure. While in recent years we have reversed this downward trend and made substantial progress towards addressing these deficiencies and the problems that resulted from them, we recognize considerable work lies ahead. As Secretary James has emphasized, restoring the health of the nuclear enterprise is an undertaking that will require sustained, long-term focus and effort.

Despite challenges, the dedicated Airmen who accomplish the nuclear mission every day continue to do so with remarkable professionalism, pride, and determination. For these women and men and the nation they serve, the Air Force remains fully committed to identifying and confronting systemic issues in our nuclear forces, and making the investments necessary to ensure they remain credible and effective in the decades ahead.

**Nuclear Enterprise Reviews**

From the outset of the Internal and Independent Nuclear Enterprise Reviews (NERs) directed by former Secretary of Defense Hagel in February 2014, as well as the review led by the Commander, U.S. Strategic Command (USSTRATCOM), the Air Force partnered closely with the assessment teams to provide unfettered access to our operations, personnel, and processes.

Combined, these assessments examined an extensive range of personnel, management, oversight, mission performance, training, testing, and investment areas across the nuclear enterprise. To date, we have implemented a number of the Air Force-specific recommendations produced by the NERs, and our work towards completing the remaining ones continues at a steady pace.

Under the direction of our Secretary and Chief of Staff, and with oversight and guidance from the Nuclear Deterrent Enterprise Review Group (chaired by the Deputy Secretary of Defense) and the Senior Oversight Group (chaired by the Director of Cost Assessment and Program Evaluation), we are approaching the implementation and tracking of NER follow-on actions through a systematic and responsive process, one intended to yield tangible and lasting improvements.

Following completion of the NERs in the fall of 2014, the Air Force's immediate efforts were concentrated on addressing the most exigent gaps identified in the reviews. As we gradually transition our attention this year to implementing NER initiatives that require longer-term action, we are placing renewed emphasis on strengthening assessment processes and developing valid metrics to ensure that the changes we institute are measurable and enduring. While continuous improvement and rigorous self-assessment have been guiding precepts of our efforts to strengthen the enterprise since our broad reorganization of this mission area in 2008-2009, we recognize that the success of our NER follow-on actions is critically dependent on how well this effort is integrated into existing Air Force nuclear oversight structures and processes, where our senior leadership can apply sustained focus, provide accountability, and marshal necessary resources.

Consistent with that objective, NER findings have assumed a central place in the agendas of our Nuclear Oversight Board, chaired by the Secretary and Chief of Staff with participation from all ten of our major command commanders, and the three-star level Nuclear Issues Resolution and Integration board. Both of these bodies, which are organized and managed by AF/A10 and meet quarterly to focus exclusively on issues of importance to the nuclear mission, serve as vital cross-functional forums where senior leaders can decisively prioritize, resource, and direct the implementation of solutions across the Air Force. We have determined that the Flight Plan for the Air Force Nuclear Enterprise, a comprehensive roadmap that outlines a series of strategic vectors for improving and monitoring the health of the nuclear enterprise, is the best framework through which to orchestrate our long-term NER response. Aligned in four focus areas—human capital, governance, inspections and assessments, and resourcing, with an

understanding that culture and morale are impacted by all of them—these vectors each have a corresponding action plan with execution and follow-up responsibilities assigned to specific Air Force entities.

The NER process has fostered an unprecedented renewal of senior level focus and collaborative engagement on the nuclear mission from the highest levels of DOD, and is already leading to positive outcomes that are visible throughout the force. We are optimistic that the new mechanisms created by the NERs can serve as a benchmark for future interagency collaboration as the Air Force continues its efforts in the coming years to improve the nuclear mission.

**Sustaining the Effectiveness and Credibility of Our Forces**

As long as nuclear weapons exist, the consequences of their potential use against the U.S. remains an existential threat that demands our strategic forces be prepared to meet not only the most likely contingencies, but also the most unlikely. President Obama has established a clear mandate that the U.S. will maintain safe, secure, and effective nuclear forces, even as we seek the peace and security of a world without nuclear weapons and take concrete steps to reduce our total number of weapons and the role they serve in national security strategy.

Consistent with the President's imperative, the Fiscal Year (FY) 2016 budget request seeks key investments in the sustainment, modernization, and recapitalization of Air Force nuclear weapon systems, supporting infrastructure, and our nuclear command, control, and communications capabilities (NC3). In addition, the budget provides strong support for our most critical asset: the Airmen we entrust to perform nuclear deterrence operations every day. Closely aligned with the priorities established by the NERs, as well as in multiple internal Air Force reviews of the nuclear enterprise, these investments in our air and ground legs of the Triad make important headway towards ensuring these systems remain effective and credible now and in the years ahead.

**Weapon System Investment**

The FY16 budget supports an array of modernization initiatives for our B-2A and B-52H bombers that will enable these aircraft to remain capable of performing their assigned nuclear and conventional missions. Despite these upgrades, both the B-52H (delivered in 1961-1962) and the B-2A (delivered throughout the early/mid 1990s) are becoming increasingly vulnerable to modern

air defenses. Accordingly, the FY16 budget advances research and development efforts for the Long Range Strike-Bomber (LRS-B) in order to ensure the nation retains a credible global strike and power projection capability in the decades ahead. We are anticipating a contract award for LRS-B in late spring of this year, with initial operational capability (IOC) for the planned fleet of 80-100 aircraft in the mid-2020s.

The budget funds life extension to 2030 of the AGM-86B air launched cruise missile (ALCM)—the nation's only air-delivered stand-off strategic weapon, fielded by the Air Force in 1982 with a designed service life of 10 years. When employed from B-52H bombers, ALCMs provide an extremely valuable signaling capability and a degree of versatility unmatched elsewhere in the Triad. For these and other reasons, the FY16 budget request restores funding to the critical Long Range Stand-Off (LRSO) effort, a follow-on ALCM program that will eventually replace the AGM-86B. The funding level requested enables the program to meet USSTRATCOM's operationally required need date and realigns Air Force integration efforts with the Department of Energy (DOE)/National Nuclear Security Agency (NNSA) life extension program (LEP) to produce an LRSO warhead.

The life extension effort for the B61, the Air Force's primary gravity nuclear weapon, is equally important to the continued effectiveness of our deterrence and assurance capabilities. Both the B61-12 LEP, which DOE/NNSA manages, and the associated Air Force Tailkit Assembly program are supported in the FY16 DOE/NNSA and Air Force budgets. These efforts are synchronized and on schedule to deliver the first production unit B61-12 in 2020. The FY16 future years defense program (FYDP) also supports risk reduction activities for dual capable aircraft (DCA) integration for the F-35 Joint Strike Fighter. Our goal of reaching IOC for F-35 DCA with the life-extended B61-12 by 2024 remains unchanged. This program remains an important and highly tangible signal of the U.S.'s continued commitment to the North Atlantic Treaty Organization, which has repeatedly affirmed the role of nuclear deterrence in the collective security of the Alliance.

Several sustainment programs for the nation's fleet of Minuteman III (MM III) ICBMs and supporting infrastructure are funded in the FY16 budget that will extend the effectiveness of this system through 2030, consistent with Congressional mandates. For more than 50 years, continuously on-alert ICBMs have been a foundational pillar of America's strategic deterrent, providing a level of responsiveness and stability not replicated by other legs of the Triad. In order

to preserve this capability for the nation beyond the phase out of MM III, the FY16 budget supports continued development and risk reduction for the follow-on Ground-Based Strategic Deterrent (GBSD) program. Last summer, Air Force Global Strike Command (AFGSC) completed the GBSD analysis of alternatives, and the program is already leveraging synergies with MM III modernization efforts to meet a target IOC in 2027.

For our major weapon system modernization and recapitalization efforts, the Air Force's partnership with DOE/NNSA—responsible for life extension of the nuclear explosive packages at the heart of our gravity weapons, cruise missiles, and ICBM reentry vehicles—remains productive and strong. Our ongoing cooperation with the Department of the Navy on ballistic missile sustainment, intended to leverage commonalities between the Air Force's MM III ICBM and the Navy's Trident II (D5) submarine-launched ballistic missile, is helping both services reduce program risk and improve affordability. Through the joint DOD-DOE Nuclear Weapons Council and other interagency channels, we will continue to pursue new opportunities to strengthen integration with our mission partners to ensure the success of our programs.

**Addressing Other Critical Mission Needs**

The FY16 budget addresses a host of other important mission needs, particularly across the ICBM force. These investments include the establishment of a program office to manage recapitalization of the Vietnam-era fleet of UH-1N utility helicopters performing the ICBM security mission, as well as the replacement of aging ICBM payload transporters with updated models. Complementing the longer-term modernization and recapitalization programs underway for the missile force, this budget also advances multiple initiatives to address immediate, near-term ICBM operations and maintenance needs.

Prior to the formal initiation of the NERs, in January 2014 AFGSC acted decisively to uncover and address urgent shortfalls throughout the missile wings through its Force Improvement Program (FIP). Guided by actual feedback provided by Airmen in the field performing missile operations, FIP yielded a diverse set of actionable recommendations, many of which were implemented or initiated last year with FY14 and FY15 investments. Examples of improvements for the ICBM force supported by FIP to date include incentive pays, scholarships, fielding of important test and maintenance equipment, refurbishment and deep cleaning of launch control centers and alert facilities, new utility vehicles, and upgraded tactical equipment and uniforms for

our security forces. Most significantly, FIP is supporting the addition of approximately 1,100 billets across AFGSC to strengthen manning in key nuclear specialties, as well as 158 technical and engineering billets at Air Force Materiel Command that will help preserve specialized skillsets within the nuclear sustainment enterprise and advance the GBSD program.

The FY16 budget also makes important first steps towards reversing the trend of decline in our critical nuclear mission facilities, particularly our 1950s-1960s era Weapons Storage Areas (WSAs) that support nuclear munitions storage and maintenance. The FY16 FYDP includes military construction funding to initiate the first phases of a comprehensive plan—the Weapons Storage Facility (WSF) Investment Strategy—that will replace existing WSAs with modern WSFs at AFGSC installations in the coming years. Additionally, the budget supports robust facilities sustainment, restoration, and modernization levels that will allow AFGSC to begin addressing a number of previously deferred infrastructure repairs across its ICBM and bomber installations.

As the lead military service for approximately two-thirds of the nation's NC3 systems, the Air Force continues to work to improve focus on and resourcing of this vital mission. Critical to the execution of the nuclear mission, as well as Presidential and senior leader communications, NC3 must be secure, redundant, and highly survivable to ensure continuous connectivity in all environments. In order to consolidate and strengthen the life cycle management process for NC3, we continue to collaborate with mission partners to define key NC3 system elements, interdependencies, and authorities. In February of this year, the Secretary and Chief of Staff designated AFGSC as the Air force lead for this mission area. In this capacity, AFGSC is presently leading an Air Force Task Force charged with assessing oversight and organizational relationships related to NC3 acquisition and sustainment, as well as participating in a comprehensive DOD led NC3 capabilities study.

**Strengthening Policies to Support the Mission**

We are effectively capitalizing on the NER process to address long-standing inefficiencies in many administrative and policy areas affecting the nuclear enterprise. In close partnership with AFGSC and other Air Force, Joint, and DOD stakeholders, over the past twelve months we have implemented a number of important revisions to key programs and policies that are yielding substantial efficiencies. For example, we have restructured our Personnel Reliability Program (PRP) to eliminate redundancy and vastly reduce the number of individuals required to be covered

by the program. We anticipate these changes will result in considerable reductions in the man-hours required to administer PRP, while at the same maintaining the integrity and intent of the program.

Through the NERs we have accelerated previously initiated efforts to refine the scope and methodology of our nuclear inspection process, with the goal of reducing duplicative structures, providing wings with critical "white space" to focus on successful performance of the mission in lieu of constant preparation for inspections, and empowering Airmen to innovate by removing unnecessary requirements that promote micro-management and perfectionism. We continue to strengthen the ICBM career field by creating new paths for professional development and education, providing additional opportunities for leadership experience, and offering incentives to our missileers who elect to pursue higher levels of responsibility.

**Treaty Compliance Efforts**

In accordance with the terms of the New Strategic Arms Reduction Treaty, Air Force activities to align our ICBM and heavy bomber forces with the treaty-compliant force structure established by DOD last spring by the deadline of February 2018 remain on track. In support of this effort, modifications to treaty-accountable ICBM silos and bombers will continue in 2015. Consistent with statutory mandates and USSTRATCOM requirements, we continue to preserve the capability to reconfigure MM III ICBM with multiple warheads.

**Conclusion**

The realization of the benefits intended from these investments and the Air Force's ability to continue supporting combatant command nuclear requirements is critically dependent on the funding levels requested in the President's budget. As the Secretary and Chief of Staff have made clear, should the Air Force have to operate at sequestration-level funding in FY16, no mission area—including nuclear deterrence operations—would be impervious to its effects.

Thank you for the opportunity to update the Subcommittee on Air Force nuclear enterprise policies and programs and our actions to implement NER recommendations. Our near and long-term commitment to continuous improvement of the nuclear mission—particularly through the deliberate development of our Airmen—will remain one of the Air Force's top priorities.

# BIOGRAPHY

UNITED STATES AIR FORCE

## MAJOR GENERAL GARRETT HARENCAK

Maj. Gen. Garrett Harencak is Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Headquarters U. S. Air Force, Washington D.C. General Harencak is responsible to the Secretary and Chief of Staff of the Air Force for focus on Nuclear Deterrence Operations. He advocates for and oversees stewardship of Air Force nuclear weapon systems. In addition, he integrates the organizing, training and equipping of the Air Force's nuclear mission, and engages with joint and interagency partners for nuclear enterprise solutions.

General Harencak entered the Air Force in 1983 as a graduate of the U.S. Air Force Academy. His assignments include aircraft command of the B-52; instructor pilot and squadron command in the B-1B; and service as aide to the Commander of U.S. Central Command. He also directed the Headquarters U.S. Air Force Executive Secretariat, and served as Deputy Director of Requirements at Headquarters Air Combat Command. General Harencak commanded the 7th Bomb Wing at Dyess AFB, Texas, and the 509th Bomb Wing at Whiteman AFB, Mo.

Before his current assignment, he was the commander, Air Force Nuclear Weapons Center, Kirtland Air Force Base, N.M.

**EDUCATION**
1983 Bachelor of Science degree, U.S. Air Force Academy, Colorado Springs
1988 Squadron Officer School, Maxwell AFB, Ala.
1991 Master of Science degree, Abilene Christian University, Texas
1994 Air Command and Staff College, Maxwell AFB, Ala.
2002 Master of Science degree, Air War College, Maxwell AFB, Ala.

**ASSIGNMENTS**
1. July 1983 - July 1984, student, undergraduate pilot training, Reese AFB, Texas
2. July 1984 - December 1984, student, B-52 combat crew training, Castle AFB, Calif.
3. December 1984 - September 1989, co-pilot, standards and evaluations pilot, and aircraft commander, 97th Bomb Wing, Eaker AFB, Ark.
4. September 1989 - August 1993, aircraft commander, instructor pilot and evaluator pilot, 96th Bomb Wing, Dyess AFB, Texas
5. August 1993 - June 1994, student, Air Command and Staff College, Maxwell AFB, Ala.
6. June 1994 - October 1997, action officer and aide-de-camp to Commander in Chief, U.S. Central Command, MacDill AFB, Fla.
7. October 1997 - June 2001, instructor pilot and operations officer, 9th Bomb Squadron, and commander, 28th Bomb Squadron, Dyess AFB, Texas
8. June 2001 - June 2002, student, Air War College, Maxwell AFB, Ala.
9. June 2002 - June 2003, Director, Executive Review Secretariat, Headquarters U.S. Air Force, Washington, D.C.
10. June 2003 - August 2004, Vice Commander, 7th Bomb Wing, Dyess AFB, Texas
11. August 2004 - July 2006, Commander, 7th Bomb Wing, Dyess AFB, Texas
12. July 2006 - September 2007, Deputy Director of Requirements, Headquarters Air Combat Command, Langley AFB, Va.
13. September 2007 - March 2009, Commander, 509th Bomb Wing, Whiteman AFB, Mo.
14. March 2009 - January 2011, Principal Assistant Deputy Administrator for Military Application, Office of Defense Programs, National Nuclear Security Administration, Department of Energy, Washington, D.C.
15. January 2011 - February 2013, Commander, Air Force Nuclear Weapons Center, Kirtland AFB, N.M.
16. March 2013 - present, Assistant Chief of Staff, Strategic Deterrence and Nuclear Integration, Headquarters U.S. Air Force, Washington, D.C

**SUMMARY OF JOINT ASSIGNMENTS**
1. June 1994 - August 1995, action officer, Operations Directorate (J3), U.S. Central Command, MacDill AFB, Fla., as a major

2. August 1995 - October 1997, aide-de-camp to the Commander, U.S. Central Command, MacDill AFB, Fla., as a major
3. March 2009 - January 2011, Principal Assistant Deputy Administrator for Military Application, Deputy Administrator for Defense Programs, National Nuclear Security Administration, Department of Energy, Washington, D.C., as a brigadier general

**FLIGHT INFORMATION**
Rating: Command pilot
Flight hours: More than 3,000 hours
Aircraft flown: T-37, T-38, B-52G, B-1B and B-2

**MAJOR AWARDS AND DECORATIONS**
Distinguished Service Medal Defense Superior Service Medal Legion of Merit with oak leaf cluster Defense Meritorious Service Medal
Meritorious Service Medal with oak leaf cluster
Air Force Commendation Medal Air Force Achievement Medal Army Achievement Medal
Combat Readiness Medal with oak leaf cluster National Defense Service Medal with bronze star Armed Forces Expeditionary Medal

**EFFECTIVE DATES OF PROMOTION**
Second Lieutenant June 1,1983
First Lieutenant June 1, 1985
Captain June 1, 1987
Major March 1, 1994
Lieutenant Colonel Jan. 1, 1998
Colonel June 1, 2003
Brigadier General Aug. 2, 2008
Major General June 4, 2012

(Current as of June 2013)

## DOCUMENTS SUBMITTED FOR THE RECORD

APRIL 15, 2015

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

**MESSAGE TO THE FORCE ON OUR NUCLEAR ENTERPRISE**
**FRIDAY, NOVEMBER 14, 2014**

To the men and women of the Department of Defense:

Earlier this year, following revelations about troubling lapses of integrity in our nation's nuclear forces, I ordered comprehensive internal and external reviews of our entire nuclear enterprise. Today at the Pentagon, I announced the reviews' findings and what we are doing to address them – ranging from changes that involve oversight, policies, and culture, to changes that require more funding and resources for the nuclear mission – but I wanted to send a personal message to all of you.

Our nuclear deterrent plays a critical role in assuring U.S. national security, and it is DoD's highest priority mission. No other capability we have is more important. Our nuclear forces stand alone in being able to deter nuclear attack on the United States and our allies.

For too long, we have overlooked career paths, compensation, infrastructure, and small-unit leadership that are mission-critical in the nuclear force. That is changing. It will *continue* to change. What you do every day is critically important to America's national security.

Over the last year, I have heard from many of our people in the nuclear force. I visited missileers at F.E. Warren Air Force Base and called launch control officers underground at Malmstrom. I visited nuclear weapons maintainers at Kirtland Air Force Base, met with STRATCOM senior and junior officers at Offutt, and met with submariners aboard the ballistic missile submarine U.S.S. *Tennessee* at Kings Bay. Today, I am visiting bomber crews, missileers, and support teams at Minot Air Force Base. Despite sometimes insufficient resources and manpower, our airmen, sailors, and Marines have stretched themselves to maintain, guard, and operate the nuclear enterprise every day. They deserve our thanks.

To all these individuals and their colleagues across our nuclear enterprise: You are the heirs to a proud legacy, and it is because of you that our nuclear enterprise is safe, secure, and effective today. We will expect excellence, and the President will expect excellence, because the American people expect excellence. In turn, we will ensure you have the resources and support you need – and we will always be unspeakably grateful to you for carrying out this vital mission.

Thank you all, and your families, for what you do for our country.

Chuck Hagel

**WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING**

APRIL 15, 2015

## RESPONSE TO QUESTIONS SUBMITTED BY MR. FRANKS

Secretary SCHER. Deterrence in the Middle East is a complex challenge, and nuclear proliferation in the region would only exacerbate the tensions and potential for instability there. This is one reason the Administration continues to work towards a comprehensive solution that that will verifiably prevent Iran from obtaining a nuclear weapon.

Regardless of the arrangement of that deal, we will continue to work with our partners to maintain a range of capabilities for regional deterrence in the Middle East. Our objective is to build and sustain a robust regional security and deterrence architecture based on U.S. conventional military capabilities, expanded cooperation on missile defense, and our partners' capabilities. The United States has not, however, offered extended nuclear deterrence guarantees to our partners in the Middle East.

The objective of our missile defense cooperation is to establish a regional missile defense architecture in which all of the Gulf Cooperation Council (GCC) States participate and contribute to the extent practical, leading to a layered defense network. This architecture would strengthen deterrence and increase the collective ability of the GCC to defeat a ballistic missile attack while reducing the burden on limited U.S. regional missile defense assets. [See page 10.]

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## RESPONSE TO QUESTIONS SUBMITTED BY MR. GARAMENDI

Dr. HOPKINS. DOD generally does not develop 25-year cost estimates but provided 10-year estimates to the committee within 24 hours of the hearing. Forecasting DOD costs over a 25-year period with any useful accuracy is extremely difficult given the challenges of predicting developments in the international security environment and ongoing technological advancements. Table 1 resubmits the 10-year DOD cost estimates for sustaining and modernizing these weapons systems as documented in the "Fiscal Year 2016 Report on the Plan for the Nuclear Weapons Stockpile, Nuclear Weapons Complex, Nuclear Weapons Delivery Systems, and Nuclear Weapons Command Control System Specified in Section 1043 of the National Defense Authorization Act for Fiscal Year 2012." [See page 8.]

| Delivery System | Estimate ($) |
|---|---|
| *Land Leg* | |
| Minuteman III | 14.1 |
| Ground-Based Strategic Deterrent (GBSD) | 8.4 |
| Fuze Modernization | Merged with GBSD |
| *Sea Leg* | |
| OHIO-Class Submarine | 18.5 |
| OHIO-Class Replacement | 35.3 |
| Trident II (D5) | 24.8 |
| *Air Leg* | |
| B-52H | 13.7 |
| B-2A | 11.6 |
| Long-Range Strike-Bomber (LRS-B) | 58.4 |
| Air-Launched Cruise Missile | 0.7 |
| Long-Range Stand-Off (LRSO) | 4.7 |
| B61-12 Tailkit Assembly | 1.1 |
| *Tactical Aircraft* | |
| Dual-Capable Aircraft | 3.2 |

Table 1: 10-Year Cost Estimates (then-year dollars in billions)

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**RESPONSE TO QUESTIONS SUBMITTED BY MR. BRIDENSTINE**

Admiral BENEDICT. The NC3 review mentioned in my testimony is still ongoing, and does not specifically address use of military satellite communications (AEHF) for tactical versus strategic requirements. In answer to your original question, AEHF is designed to meet protected SATCOM requirements based on both Strategic and Tactical Scenarios. Accesses on the satellites are requested via Satellite Access Requests and are assigned based on mission priorities. In an actual strategic scenario, strategic users would have top priority. [See page 13.]

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**RESPONSE TO QUESTION SUBMITTED BY MR. ASHFORD**

General HARENCAK. The operational planning performed by the U.S. Strategic Command's Joint Functional Component Command for Global Strike remains essential to the nation's ability to conduct nuclear assurance, deterrence, and global strike operations. The Air Force supports this important mission in a number of ways, particularly through Eighth Air Force and its 608th Air and Space Operations Center. [See page 11.]

## QUESTIONS SUBMITTED BY MEMBERS POST HEARING

APRIL 15, 2015

## QUESTIONS SUBMITTED BY MR. ROGERS

Mr. ROGERS. President Obama's Nuclear Employment Guidance rejects the notion of de-alerting U.S. nuclear forces while continuing to examine options to reduce the role of "Launch under Attack" in U.S. planning. Please explain why the President chose to reject de-alerting U.S. ICBM forces?

Secretary SCHER. The President's decision not to de-alert the Intercontinental Ballistic Missile (ICBM) force was the result of analysis that indicated doing so would be destabilizing, not stabilizing, in a crisis or conflict. A race to "re-alert" in crisis could prompt one side to strike preemptively.

Maintaining continual at-sea presence of ballistic missile submarines strengthens crisis stability by ensuring that a decision by the President to delay U.S. response to a nuclear attack would not mean loss of assured response capability. Maximizing Presidential decision time in this way allows us to reduce the role of Launch Under Attack in U.S. planning.

Extensive safeguards and an extremely secure command and control system make the possibility of an accidental or unauthorized ICBM launch remote. Furthermore, the current practice of "open-ocean targeting" of all ICBMs and Submarine-Launched Ballistic Missiles ensures that, in the highly unlikely event of an accidental launch, the missile would land in the open ocean.

Mr. ROGERS. Did the Nuclear Posture Review and its related implementation study examine in detail various options for the structure of U.S. nuclear forces, including a dyad and potential monad? What did these analyses show about the risks of moving away from the triad? Why did the Administration choose to remain with the triad—explicitly rejecting the elimination of one or more legs of the triad?

Secretary SCHER. In the lead up to the 2010 Nuclear Posture review (NPR), DOD conducted a series of separate analytic studies looking at the appropriate size, composition, and posture of U.S. nuclear forces. These studies influenced the NPR and the 2010 "1251 Report to Congress" on the DOD preferred force structure under the New START Treaty.

These studies used various attributes and metrics to evaluate a range of force structure options in terms of their ability to support policy goals, including strategic deterrence, extended deterrence, and assurance of allies and partners. The study analytics were applied to various monads, dyads, and triads at numerous force levels.

Taken together, these studies concluded that retaining all three legs of the nuclear Triad under the New START Treaty at negotiated lower force levels is the best way to affordably maintain strategic stability, sustain effective nuclear deterrence of potential adversaries and assurance of allies and partners, while credibly hedging against geopolitical changes or technical problems and vulnerabilities.

Mr. ROGERS. Last year, Secretary Hagel provided a report (which I will introduce for the record) assessing the requirements for plutonium pit manufacturing. This report reaffirmed the requirement for a pit production capacity of 50–80 pits per year, correct? This report is about a year old—has its conclusion that we need a capacity of 50–80 pits per year changed?

a. Should pit production capacity be tied solely to the needs of the life extension programs, or should the requirement for a responsive infrastructure also influence when we achieve a pit production capacity of 50–80 per year?

b. What analysis underpins this number? How do pits in storage, planned life extension programs, and the expected lifetimes of pits factor in?

Dr. HOPKINS. The conclusion of the "Assessment of Nuclear Weapon Pit Production Requirements" report, that the Nation requires a pit production capacity of 50–80 pits per year, remains unchanged. The report explains that pit production capacity is tied to four factors: policy objectives for the nuclear deterrent; stockpile aging (including pit age and plutonium aging); military requirements (including planned life extension programs); and infrastructure costs and capacity. The National Nuclear Safety Administration (NNSA) Fiscal Year (FY) 2016 Stockpile Stewardship and Management Plan details NNSA's plutonium investment strategy that leads to war-reserve-quality production of 30 plutonium pits per year by FY 2026 and 50 to 80 pits per year by 2030.

Pits in storage represent the Nation's only source of plutonium for newly manufactured pits. They also enable pit reuse alternatives for future life extension programs that can mitigate near-term production workload.

Mr. ROGERS. Did the Nuclear Posture Review and its related implementation study examine in detail various options for the structure of U.S. nuclear forces, including a dyad and potential monad? What did these analyses show about the risks of moving away from the triad? Why did the Administration choose to remain with the triad—explicitly rejecting the elimination of one or more legs of the triad?

Dr. HOPKINS. In preparation for the 2010 Nuclear Posture Review, DOD executed several studies looking at the appropriate size, composition, and posture of U.S. nuclear forces. These studies evaluated a range of force structure options to support policy goals, including strategic deterrence, extended deterrence, and assurance of allies and partners. The study analytics were applied to various monads, dyads, and triads at numerous force levels. Conclusions from these studies agreed that maintaining all three legs of the nuclear triad at negotiated lower force levels is the best way to sustain effective nuclear deterrence of potential adversaries and assurance of allies at reasonable cost, while hedging against potential technical problems and vulnerabilities.

Mr. ROGERS. General Harencak, does the Air Force maintain a capability to put multiple independently retargetable reentry vehicles (MIRVs) on its Minuteman III ICBMs? Will it continue to maintain this capability on the follow-on to Minuteman III, the ground-based strategic deterrent (GBSD) program?

In your military judgment, why is this capability important?

General HARENCAK. Yes, in accordance with national guidance, the United States retains the ability to upload non-deployed warheads to the Minuteman III ICBM in MIRV configuration. To support this requirement, the Air Force continues to periodically conduct MM III flight tests with multiple warheads.

The Air Force intends to retain the ability to upload multiple warheads in the Ground-Based Strategic Deterrent (GBSD). In my military judgment, maintaining this capability in the follow-on ICBM is an important aspect of preserving the credibility and effectiveness of the ICBM force in the decades ahead. ICBM MIRV capability enhances the resiliency of the Triad by providing an effective hedge against technical failure in another leg of the Triad or geopolitical surprise. The risk mitigation benefits it offers are extremely valuable, especially as the U.S. reduces its strategic force structure to comply with arms control treaty requirements.

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## QUESTIONS SUBMITTED BY MR. GARAMENDI

Mr. GARAMENDI. Please provide information on the planning, timelines for research and development, production timelines, and costs of the Department of Defense's nuclear sustainment and modernization strategy. This information should be comparable to the information in the National Nuclear Security Administration's annual report to Congress on the Stockpile Stewardship and Management Plan, which details the priorities and planning for nuclear weapons modernization over 25 years, including estimates of per-year costs and life-cycle costs.

Secretary SCHER. I have reviewed Dr. Hopkins' response to this question, and concur with the information he provided. [See below.]

Mr. GARAMENDI. Please provide information on the planning, timelines for research and development, production timelines, and costs of the Department of Defense's nuclear sustainment and modernization strategy. This information should be comparable to the information in the National Nuclear Security Administration's annual report to Congress on the Stockpile Stewardship and Management Plan, which details the priorities and planning for nuclear weapons modernization over 25 years, including estimates of per-year costs and life-cycle costs.

Dr. HOPKINS. The United States will maintain a triad composed of intercontinental ballistic missiles, submarine-launched ballistic missiles, and heavy bombers capable of carrying nuclear gravity bombs and cruise missiles, within New START Treaty central limits. Additionally, DOD will maintain nuclear dual-capability on fighter aircraft in the future with the F–35. Current Triad systems are beyond their original expected service lives and are being sustained until they can be replaced in the 2025–2035 timeframe.

A high-level view of the joint Department of Defense (DOD) and National Nuclear Security Administration (NNSA) nuclear weapons sustainment and modernization strategy is presented in the Nuclear Weapons Council (NWC) Baseline Strategic Plan. The plan, which provides the basis for nuclear weapons budget planning, is a 25-year view summarizing the timelines for production and deployment of nuclear warheads, DOD delivery systems, and associated NNSA production infrastructure

such as pit and tritium production. DOD generally does not develop 25-year cost estimates but has provided 10-year estimates. Forecasting DOD costs over a 25-year period with any useful accuracy is extremely difficult given the challenges of predicting developments in the international security environment and ongoing technological advancements. Table 1 summarizes 10-year DOD cost estimates for sustaining and modernizing these weapons systems as provided in the "Fiscal Year 2016 Report on the Plan for the Nuclear Weapons Stockpile, Nuclear Weapons Complex, Nuclear Weapons Delivery Systems, and Nuclear Weapons Command Control System Specified in Section 1043 of the National Defense Authorization Act for Fiscal Year 2012."

| Delivery System | Estimate ($) |
|---|---|
| *Land Leg* | |
| Minuteman III | 14.1 |
| Ground-Based Strategic Deterrent (GBSD) | 8.4 |
| Fuze Modernization | Merged with GBSD |
| *Sea Leg* | |
| OHIO-Class Submarine | 18.5 |
| OHIO-Class Replacement | 35.3 |
| Trident II (D5) | 24.8 |
| *Air Leg* | |
| B-52H | 13.7 |
| B-2A | 11.6 |
| Long-Range Strike-Bomber (LRS-B) | 58.4 |
| Air-Launched Cruise Missile | 0.7 |
| Long-Range Stand-Off (LRSO) | 4.7 |
| B61-12 Tailkit Assembly | 1.1 |
| *Tactical Aircraft* | |
| Dual-Capable Aircraft | 3.2 |

Table 1: 10-Year Cost Estimates (then-year dollars in billions)

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## QUESTIONS SUBMITTED BY MR. FORBES

Mr. FORBES. The Navy and the Air Force have successfully collaborated on the joint fuse program, saving both Services time and money. Could the witnesses please: provide examples of other joint programs and subsystems opportunities for Air Force and Navy collaboration; detail the barriers to such collaboration; and outline what mechanisms should be implemented to overcome such barriers and help strengthen future collaboration.

Dr. HOPKINS. Additional examples of productive collaborations between the Air Force and Navy include the Ground-Based Strategic Deterrent (GBSD) program, missile and reentry body technology development, and use of common production and repair facilities. Collaborations can be limited by differing operational requirements, peacetime employment and sustainment for nuclear weapons systems, and the timing of acquisitions programs.

To help reduce these limitations and to foster strategic collaboration, the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L) and the Military Departments have existing mechanisms that increase collaboration across the Departments and ensure that DOD leverages investments in a fiscally constrained environment. AT&L leads a semi-annual review of Air Force and Navy science and technology efforts under the Technology for the Sustainment of Strategic Systems Integrated Product Team, in part to identify areas for collaboration between the two Military Departments. This effort leverages investments in key technical and system areas and supports critical skills and capabilities within the strategic systems community. In addition, a 2012 Navy/Air Force Memorandum of Agreement (MOA) signed by the Director of Navy Strategic Systems Programs, the Commander of the Air Force Nuclear Weapons Center, and the Air Force Program Executive Officer for Strategic Systems provides a framework to identify opportunities for collaboration and to coordinate investments in current and follow-on strategic systems. Such governance mechanisms serve to overcome barriers and help strengthen future collaborations.

## QUESTIONS SUBMITTED BY MR. BISHOP

Mr. BISHOP. The Air Force's hub for ICBM sustainment and modernization is at Hill AFB in Utah. Over 18 month ago, the Air Force awarded the Follow-on Intercontinental Ballistic Missile Sustainment and Acquisition Concept (FISAC) Integration Support Contract to BAE Systems, after 54 years with Northrup Grumman. Please explain how the contract transition has been managed and on the systems engineering and acquisition support to date, in helping the Air Force sustain the existing Minuteman III fleet and develop its proposed follow-on, the Ground-Based Strategic Deterrent. Additionally, funding is critical to correcting past neglect of the nuclear enterprise. What are your thoughts on the funding levels required to sustain and modernize the ground based component of the United States' nuclear triad?

General HARENCAK. The Future ICBM Sustainment and Acquisition Construct (FISAC) evolved from an evaluation of multiple options for weapon system support and includes an Integration Support Contract (ISC) and four subsystem (Propulsion, Guidance, Re-Entry, and Ground Systems) contracts. Transition risk was mitigated by extending the ICBM Prime Integrated Contract (IPIC) support through award of the Partial Bridge Contract (PBC) to Northrop Grumman. Transition to FISAC is being completed in phases beginning with the award and transition of the ISC followed by subsequent award and transition of each of the subsystem contracts. As each transition phase is completed, the PBC is de-scoped proportionally to remove any unnecessary duplication of effort.

The ISC contract was awarded to BAE in July 2013 and transition was completed in June 2014. BAE has met all of their hiring targets and have received excellent ratings on their first Contractor Performance Assessment Report in July 2014. BAE has, and will continue to provide, the critical system engineering and integration expertise required to adequately support the Government's organic workforce through the transition.

The Re-Entry subsystem contract was awarded to Lockheed Martin in June 2014, and transition was completed in September 2014 with no significant issues. The Ground subsystem contract was awarded to Northrop Grumman in January 2015 with transition still ongoing. The Guidance Subsystem contract was awarded to Boeing in January 2015 with transition still ongoing. The Propulsion Subsystem contract is in source selection with award anticipated in first quarter 2016 with transition anticipated to be complete by the end of 2016.

The Integrated Support Contract (ISC) has been indispensable in assisting the Air Force with sustaining the existing Minuteman III fleet. The ISC currently provides approximately 60% of the workforce tasked with the development of early acquisition products supporting of the Ground Based Strategic Deterrent effort.

Regarding funding levels, Secretary James has emphasized that restoring the health of the nuclear enterprise is an undertaking that will require sustained, long-term focus and effort. The Fiscal Year (FY) 2016 budget request represents an important step towards that goal. It seeks key investments in the sustainment, modernization, and recapitalization of the ground-based portion of the Triad, in addition to other critical Air Force nuclear weapon systems, supporting infrastructure, and nuclear command, control, and communications capabilities.

The Air Force will continue to support nuclear enterprise requirements in future budget submissions. As Secretary James and General Welsh have stated, because of the severity of cuts mandated by the Budget Control Act, no mission area (including nuclear operations) would be spared from its impact should the Air Force have to operate at sequestration-level funding in FY16.