

**DEPARTMENT OF DEFENSE AUTHORIZATION  
OF APPROPRIATIONS FOR FISCAL YEAR  
2015 AND THE FUTURE YEARS DEFENSE  
PROGRAM**

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**WEDNESDAY, MARCH 5, 2014**

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

**TESTIMONY ON NUCLEAR FORCES AND POLICIES**

The subcommittee met, pursuant to notice, at 2:41 p.m. in room SR-222, Russell Senate Office Building, Senator Mark Udall (chairman of the subcommittee) presiding.

Committee members present: Senators Udall, Donnelly, King, Sessions, Fischer, and Vitter.

Committee staff member present: Leah C. Brewer, Nominations and Hearings Clerk.

Majority staff members present: Jonathan S. Epstein, counsel; and Gerald J. Leeling, general counsel.

Minority staff members present: John D. Cewe, professional staff member; and Robert M. Soofer, professional staff member.

Staff assistants present: Lauren M. Gillis and Robert T. Waisanen.

Committee members' assistants present: Christopher R. Howard, assistant to Senator Udall; Lenwood A. Landrum, assistant to Senator Sessions; Peter W. Schirtzinger, assistant to Senator Fischer; and Joshua S. Hodges, assistant to Senator Vitter.

**OPENING STATEMENT OF SENATOR MARK UDALL, CHAIRMAN**

Senator UDALL. Let me bring today's hearing to order. Gentlemen and ladies, if you will have a seat. Thank you for your forbearance. I am running a little bit late and I apologize.

This afternoon, we will hear testimony from the Department of Defense regarding nuclear matters for fiscal year 2015. I want to thank all of you for taking the time to testify today.

I want to start by giving some perspective to the general topic of our nuclear stockpile. Since the first detonation of a nuclear weapon 69 years ago, we have debated whether they should exist and whether they remain relevant today. That debate will continue for the foreseeable future.

It seems to me, however, that the negative aspects of this debate, particularly the relevancy of the mission, has had a negative im-

fact on the morale of those serving us in the field. And I believe we must emphasize that as long as these weapons exist, the mission performed by the men and women of our nuclear enterprise is relevant and essential to our national security. We must be clear that we place the highest trust in their ability to carry out their duty because it involves nuclear weapons, and we must be clear that we expect a great deal from them. But above all, we must demonstrate that we care about their well-being, their families, and their future. I am sure that our witnesses understand this, but I want to assure them that I do too.

General Wilson, I would like to congratulate you on assuming command of the Air Force Global Strike Command. I suspect a large portion of today's hearing will be centered on the recent incident involving cheating at Malmstrom Air Force Base, and I hope your testimony will provide insight into your impressions so far and what we can constructively learn from this incident. And I would add that I am, of course, sensitive to the ongoing reviews by the services and the Secretary of Defense.

General Harenca, you are the point person on the air staff trying to deconflict the various missions of the Air Force with respect to nuclear weapons. I plan to ask you about what I perceive as a gap in coordinating the Air Force's nuclear command and control.

Admiral Benedict, I would like to congratulate you as well on your promotion. This was long overdue and consistent with the recommendations of the 2008 Schlesinger report. I would like to know your perspective as a naval officer on the recent ICBM cheating incident. You are the senior naval officer responsible for the warhead and its delivery systems, and I want to hear your insight in this matter from a Navy perspective.

Ms. Bunn, welcome to the subcommittee. The Department is eliminating the Office of Assistant Secretary of Defense for Global Strategic Affairs, Madelyn Creedon's office. This office has a 40-year history of overseeing policy related to nuclear weapons and proliferation, as well as space and cyber. I understand your office will be separate from these other offices which have a long and synergistic relationship with you. While you are not Senate-confirmed, I would like your honest and frank assessment to the Congress of what effect this move will have on the long-term health of the policy mission you oversee even past your tenure.

With that, let me turn to my colleague and the ranking member, Senator Sessions, for his opening statement, and then we will turn to opening statements and questions. Senator Sessions?

#### **STATEMENT OF SENATOR JEFF SESSIONS**

Senator SESSIONS. Thank you, Mr. Chairman.

I would like to share a few thoughts, just take a minute. I do not pretend to be the guru on nuclear and strategic weapons, but having been on this committee since I came to the Senate, I guess, 17-plus years ago, they have come before me. I would just share with you a few things.

It has been my concern that I have raised publicly that the Defense Nuclear Posture Review Statement that had some 30-odd references to a world without nuclear weapons was stunning to me. I just was shocked. The President has said he wants a world with-

out nuclear weapons. Secretary Hagel, within a year of confirmation, had signed on to a report, Nuclear Zero. So I raised concerns about it. Maybe some would think that was just politics as usual. But I am concerned about it. I think it creates a dangerous perception perhaps that either we are going to go to zero or we are not going to use the weapons if we have them and create instability and lack of confidence in our allies around the world. And they have expressed that to us repeatedly. So I was concerned about it.

I will say, Mr. Chairman, it does appear that the budget request from the administration gets this pretty close to where we need to go, and I would like to hear your positions. It seems like we have had a move that recognizes the triad's importance and the need to modernize nuclear weapons. This is a right step in my view. Particularly in this time of the Ukraine and China's aggressiveness, we do not need to be sending any signal that somehow we are not willing to modernize or utilize even—God forbid—the weapons that we have.

I would share a couple of things. This was from the U.S. National Intelligence Council Global Trends Report of 2030. It said, quote, the nuclear ambitions in the United States and Russia over the last 20 years have evolved in opposite directions. Reducing the role of nuclear weapons in U.S. security strategy is a U.S. objective, while Russia is pursuing new concepts and capabilities for expanding the role of nuclear weapons in its security strategy. And in fact, we know that in 1999 they did a war game in which they invaded Belarus, and part of it was to utilize tactical nuclear weapons, in their words, to de-escalate the conflict. And we know in recent years they have talked about using tactical nuclear weapons out there. So that is an important thing.

China. I am looking at a report of October last year from the state-controlled media in China, the Global Times. It says, quote, because the Midwest States of the United States are sparsely populated, in order to increase the lethality of our nuclear attacks, we should mainly target the key cities on the west coast of the United States such as Seattle, Los Angeles, San Francisco, or San Diego. Close quote. They go on to say, quote, if we launch our DF31A ICBMs over the North Pole, we can easily destroy a whole list of metropolises on the east coast in the New England region of the United States, including Annapolis, Philadelphia, New York, Boston, Portland, Baltimore, and Norfolk, whose populations account for one-eighth of the American total residents.

Now, Admiral, I suppose—well, we do not have an Admiral, do we? Yes, we do. Annapolis must get the Navy's attention. I do not know. Put them in that list.

So what I would say to all of our colleagues is we do not like to think about this, but Russia is thinking about it and China is thinking about it and Iran is thinking about it and a lot of other countries are thinking about it. It is said that Pakistan may have the most active nuclear program today, and North Korea is developing their nuclear launch missiles. India activated the reactor of its first indigenously built ballistic nuclear submarine. India and China now have submarines capable of launching nuclear weapons.

So in the QDR that just came out, the headline, "Protect the Homeland," I thought it was interesting for our committee that the

Defense Department says this. We will continue to size and shape the joint force based on the need to defend the U.S. Homeland, our most vital national interest. The first recommendation is missile defense, and it talks about what we need to do there. The nuclear is the second one listed. We need to talk about modernizing our forces. And the third one is cyber. All of those fall within our—the first three listed on the QDR fall within our subcommittee. So I am thinking, you know, history being what it is, we do not want to wake up a few years from now and having a 9/11 report wondering why the subcommittee was not on top of these issues.

And so where are we financially? We got this chart. Could you all bring it up a little closer maybe so you could see this? Secretary Hagel said, “we are going to invest in the modernization we need to keep the deterrent stronger than it has ever been, and you have my commitment on that.” So I like that. I was glad to hear him be clear on that because, as I said, his record caused me concerns.

[The chart referred to follows:]

INSERT CHART HERE

Now, these numbers—I had to cross examine my staff to be sure I got this. These numbers include ICBMs, submarines, and bombers, not just the weapons themselves. So that is the good news. So this represents what percentage of the defense budget we spend on the nuclear triad and the weapons that go with it. So it was high in the 1990s.

So the last time we modernized was in the 1980s. We have the oldest nuclear arsenal in the world. That is undisputed. Our warheads are 30 to 40 years old. The B-52s are 52 years old. ICBMs are 34 years old. Submarines are 23 years old. I went on a nuclear submarine and spent the night on it. I was surprised how old it was. And things are always breaking. They spend a considerable amount of time on our nuclear submarines fixing the smaller things.

And what about affordability? According to the Congressional Budget Office, if we get this system back up—all right. So here is what we need to do. The neglected modernization since the end of the Cold War requires replacement of the triad. It just does. We have got to be planning to replace it. Exactly what year I guess we could dispute, but the goal is there.

And we need to modernize the whole nuclear complex, as we well know and as we have been talking about. Therefore, we have to have a funding up in the next decade to make sure that we get our funding up to the right amount, and that could take around \$35 billion a year which, at \$35 billion a year, will represent about 5 percent of our defense budget. So it is not impossible for us to reach that. And if we could get to the point where we modernized in the right way, we would be on the right path.

Now, of the new spending, only 2 percent of this amount is for the weapons modernization itself. That is relatively inexpensive, and it is a small price to pay for the Nation’s ultimate insurance policy and for an arsenal that has maintained great power and peace really for 70 years.

I remember having lunch with a member of the Russian parliament and professor, and I asked what about their tactical weap-

ons. I have told you all this before. And the professor popped up and said do you know how many troops China has on our border. We are never giving up tactical nuclear weapons. So that is the real world we live in.

So this shows this peak up here, and as I said, this would fund the submarine modernization, the aircraft, the new bomber, at least that portion of it dedicated to nuclear weapons and to the ICBM's which, as I said, are getting awfully old too.

This has sort of been a little bit of an epiphany for me as we have been looking at these numbers. I hope you all take this in the spirit of pure reality and what the United States needs to do, and we do not need to fail. If we need to accelerate some of this, it is a relatively small part of the budget overall, and I think we have to do it. And at a time where the will of the United States is being questioned, I think it may be even more significant that we stay on track to leave no doubt that we are going to have an arsenal, we are going to use it only, only, only if we have to. But we have the will to defend ourselves if need be, and you do not want to launch a nuclear attack on us because that would be a grave mistake.

Anyway, that is my 2 cents worth. Thank you for letting me ramble on, and I look forward to working with you, Senator Udall. You have been good on this, and we are all learning together, and I think we are coming back into the right path. I think we are getting close to what we need to do.

Senator UDALL. Thank you, Senator Sessions. I think the Senator points out the importance of this committee's role as an authorizing body and also an oversight body. We are going to hold a series of very important hearings over these next months as we prepare for the NDAA markup itself. I know we will hope to have the kind of attendance that Senator Fischer and Senator King and Senator Donnelly always display on this committee. They are always here and they are always engaged.

So with that, let me make a short comment on questions and timing. I would like to aim to end the hearing by about 4 p.m. We are going to have, I think, eight votes starting at 4 p.m., for my colleagues that are here. We have four witnesses. I think we can get the job done. I would ask each of you to keep your statements to 3 to 5 minutes, and then we will open the floor for 7-minute rounds.

I think we will start on my left with Ms. Bunn, and then we will work across the panel here. So, Ms. Bunn, the floor is yours for 3 to 5 minutes.

**STATEMENT OF M. ELAINE BUNN, DEPUTY ASSISTANT SECRETARY OF DEFENSE, NUCLEAR AND MISSILE DEFENSE POLICY**

Ms. BUNN. Thank you, Mr. Chairman, Ranking Member Sessions, other distinguished members of the subcommittee. I really appreciate the opportunity to testify today, and I appreciate your support for nuclear forces.

With your permission, I will submit my written statement and only highlight a few points now.

The Quadrennial Defense Review report, which was submitted yesterday with the fiscal year 2015 budget, makes clear the key role of nuclear forces in our strategy. It says that 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 distant 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.

Also, the Chairman of the Joint Chiefs of Staff in his risk assessment for the QDR ranked maintaining a secure and effective nuclear deterrent at the top of his list of mission prioritization.

The Department's budget request for fiscal year 2015 supports our nuclear policy goals, as laid out in the 2010 Nuclear Posture Review, in the President's June 2013 Nuclear Employment Strategy, and in the current QDR.

We continue to ensure that this and future Presidents have suitable options for deterring, responding to, and managing a diverse range of current and future situations, including regional deterrence challenges.

We continue to work closely with our allies, some of whom live in very dangerous neighborhoods, to ensure continuing confidence in our shared national security goals, including assurance of our extended nuclear deterrence commitments.

Preserving the nuclear triad of strategic delivery vehicles and investing to maintain a safe, secure, and effective nuclear force is critical for success in all those efforts.

The 1043 report, which we will provide to Congress this spring, will address these issues and the budget issues in more detail, but let me just say that our modernization goals have not changed since 2010. We have made considerable progress, but we have had to make some adjustments due to fiscal constraints.

Three other issues I would like to address briefly. One is New START force structure. The administration is considering how to reduce nondeployed strategic delivery vehicles to comply with the limits of the New START treaty by February 2018, and we will make a final force structure decision and inform Congress prior to the start of fiscal year 2015.

INF Treaty compliance. We are concerned about Russian activity that appears to be inconsistent with the Intermediate Range Nuclear Forces Treaty. We have raised the issue with Russia. They provided an answer that was not satisfactory to us, and we told them that the issue is not closed and we will continue to raise this.

The nuclear enterprise reviews. With regard to recent issues with a few Air Force/Navy nuclear personnel, the Secretary of Defense has created two special review panels, one an internal review and one an external review. Those reviews are not about assigning blame. They are about identifying, assessing, and correcting any systemic deficiencies that we might uncover and applying the best practices for carrying out our nuclear mission across the nuclear force.

Again, Mr. Chairman, other members, thank you very much for letting me testify today, and I look forward to your questions.

[The prepared statement of Ms. Bunn follows:]

Senator UDALL. Thank you, Ms. Bunn.  
General Wilson?

**STATEMENT OF LT. GEN. STEPHEN W. WILSON, USAF,  
COMMANDER, AIR FORCE GLOBAL STRIKE COMMAND**

General WILSON. Chairman Udall, Ranking Member Sessions, distinguished members of the subcommittee, thank you for allowing me to appear for the first time today as Commander of Air Force Global Strike Command. This summer our command will celebrate its fifth anniversary. The command was stood up to provide a singular focus on the stewardship, the safe, secure, and effective operations of two-thirds of our Nation's nuclear triad.

Advancements and modernization taking place in the nuclear arsenals of other nations of concern are a clear indicator that the role of nuclear deterrence operations has not declined, as some would have us believe, but has actually become more critical.

We have provided a credible nuclear deterrent for the past 50 years. It can be easy to lose sight of the fact that there are almost 25,000 airmen in our command doing the mission absolutely right 24 hours a day, 7 days a week, 365 days a year. We must continue to show them that they are important and relevant, that we value the critical work that they carry out every day with pride, discipline, and precision.

Our mission is unwavering. We develop and provide combat-ready forces for nuclear deterrence and global strike operations to support the President of the United States and combatant commanders. The command's priorities provide the clear path to mission success.

First, we will deter and assure with a safe, secure, and effective nuclear force.

Second, we are going to win the fight both in our overseas contingencies where we have nearly 1,000 airmen deployed around the world today and with the 1,100-plus deterrent force who are every day deployed to the missile fields of Montana, North Dakota, Wyoming, Nebraska, and Colorado.

We will strengthen and empower the team by continuing to improve both the quality of life of our airmen and their families, aware of the unique demands both of the mission and the locations in which they live.

And finally, we will shape the future by staying focused on the people, our human capital development, and a nuclear force modernization and initiatives.

Mr. Chairman, thank you for this opportunity to appear before the subcommittee and to discuss things going on in Air Force Global Strike Command. I look forward to your questions, and with your permission, I would like to enter my written testimony into the record.

Senator UDALL. Without objection.

[The prepared statement of General Wilson follows:]

Senator UDALL. Thank you for that testimony.

Admiral Benedict?

**STATEMENT OF VADM TERRY J. BENEDICT, USN, DIRECTOR,  
STRATEGIC SYSTEMS PROGRAMS**

Admiral BENEDICT. Chairman Udall, Ranking Member Sessions, distinguished members of the subcommittee, thank you for the opportunity to testify here today. Today I represent the men and the women of our Navy's Strategic Systems Programs, or SSP. And your continued support of our deterrence mission is greatly appreciated. Thank you.

The Navy provides the most survivable leg of the U.S. nuclear triad with the ballistic missile submarines and the missiles that they carry. My mission, as the Director of Strategic Systems Programs, is to design, develop, produce, support, and ensure the safety and the security of the Navy's sea-based strategic deterrent capability, the Trident II(D5) strategic weapons system. My written statement, which I respectfully request be submitted for the record, addresses my top priorities.

Senator UDALL. Without objection.

Admiral BENEDICT. Due to time constraints, I would briefly like to touch on three of these topics: nuclear weapons safety and security, SSP's Trident II(D5) life extension efforts, and solid rocket motors.

First, my top priority is the safety and the security of the Navy's nuclear weapons. Custody and accountability of the nuclear assets entrusted to the Navy are the cornerstone of our program. Our approach to the nuclear weapons mission is to maintain a culture of excellence and self-assessment that produces the highest standards of performance and integrity. This culture is grounded in procedural compliance, level of knowledge, a questioning attitude, forceful backup, and formality. It is emphasized at all levels of the enterprise and forms a fundamental element of an integrated, layered approach to ensuring a safe, secure, and effective strategic deterrent.

Second, the Navy is proactively taking steps to address aging and technology obsolescence. SSP is extending the life of the Trident II(D5) strategic weapons system to match the Ohio class submarine's service life and to serve as the initial baseline mission payload for the Ohio replacement submarine platform. This is being accomplished through a life extension program to all Trident II(D5) SWS subsystems to include launcher, navigation, fire control, guidance, missile, and reentry.

And finally, I remain concerned with the decline in demand for solid rocket motors. While the Navy is maintaining a continuous production of solid rocket motors, the demand from both NASA and the Air Force has declined. Not only did this decline result in higher costs for the Navy as practically a sole customer, but it also put the entire specialized industry at risk for extinction. 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. I continue to work with our industry partners, the Department of Defense, senior NASA leadership, Air Force, and Congress to do everything we can to ensure this vital national industry asset is preserved.

Our Nation's sea-based deterrence has been critical to our Nation's security since the 1950s and will continue to assure our allies and deter potential adversaries well into the future.

Thank you for the opportunity to testify today, and at the appropriate time, I will take any questions, sir.

[The prepared statement of Admiral Benedict follows:]

Senator UDALL. Thank you, Admiral Benedict.  
General Harencaak?

**STATEMENT OF MAJ. GEN. GARRETT HARENCAK, USAF, ASSISTANT CHIEF OF STAFF, STRATEGIC DETERRENCE AND NUCLEAR INTEGRATION**

General HARENCAK. Chairman Udall, Ranking Member Sessions, members of the subcommittee, thank you for your continued support of our triad and our nuclear Air Force. As the headquarters Air Force A-10, I advocate and integrate for our Air Force nuclear forces, and I appreciate the opportunity to update the subcommittee on all of our efforts here today.

I look forward to your questions and I respectfully request my written statement be entered into the record.

[The prepared statement of General Harencaak follows:]

Senator UDALL. Thank you, General. Let me thank the panel.

And I want to throw it first to Senator King for questions he may have. Let us do 7-minute rounds.

Senator KING. Thank you, Mr. Chairman.

First, Ranking Member Sessions, thank you for that chart. I learn visually and I think that is a very powerful piece of information up there. And I appreciate your work to put the data together. And it raises serious questions.

Well, Ms. Bunn, perhaps you could react. This tells us that we are under-investing and that we have to change that, or otherwise we are just putting off investment decisions. It is like not rebuilding bridges and roads. We are going to have to pay for the eventually. Your thoughts on the data that is presented here?

Senator SESSIONS. Senator King, I would just note the green, if you cannot see it, is 2017, and that is when we are reconstituting the triad plan. And we did hit about the lowest percentage of the defense budget in 2007, if you cannot see it.

But excuse me. Go ahead.

Senator KING. I am interested in your thoughts about whether the little glimmers of green at the end of the chart are sufficient.

Ms. BUNN. Yes, sir. It is clear that there will be recapitalization cost in the out-years that are not shown on the chart, and indeed, we think that those are both reasonable and necessary.

Senator KING. Are we going to be able to make them in light of the reinstatement of sequestration in 2 years?

Ms. BUNN. If there is sequestration after 2015, Senator, it will hurt this a lot. So we would love to see stability and predictability in the funding for that recapitalization so we can do it most effectively and efficiently.

Senator KING. Well, I just hope adequate provision is taken. We have got to be realistic. I mean, everybody around here hates sequestration, but it has a way of rearing its ugly head continuously. So this is going to have to be part of your long-term planning in

the Department because I am just afraid this might be a lower priority than readiness or personnel costs and those kinds of things. This is an important investment.

General, help me with the pronunciation of your name.

General HARENCAK. Harencaak, Senator.

Senator KING. Harencaak, thank you.

When I was a senior in college, I wrote my senior thesis on the subject of deterrence, and I am not going to incriminate myself by telling you what year it was, but I will tell you that Lyndon Johnson was President of the United States. [Laughter.]

But it seems to me that the theory of deterrence has fundamentally changed because at that time we were talking about state-to-state deterrence, and there was a certain presumption of rationality. We were really talking about the Soviet Union. Today we are talking about the possibility of non-state actors who are not particularly rational and who are potentially suicidal. The whole idea of mutually assured destruction was that you wanted to keep your life. Now we have got people who are potentially suicidal.

Talk to me about the theory of deterrence as it applies in this utterly new set of circumstances. Nuclear bomb on tramp steamer headed for Miami manned by fanatics who are prepared to die for the cause.

General HARENCAK. Well, Senator, the theory of nuclear deterrence, strategic—having a credible nuclear deterrence, I do not believe has fundamentally changed. What it does do—and the forces that we provide the Nation protect against its only existential threat, and while a credible, stable, nuclear deterrent that is actually used every day—you know, I get asked a lot of questions. People say, well, but you never use these weapons. But we use them every single day. That is the concept of deterrence. A continued at-sea deterrence that Admiral Benedict provides, our bomber forces, our missiles that are across five States—

Senator KING. How do all of those things deter 12 madmen on a ship? That is my question. Your answer is not responsive. Deterrence works with countries and rational people. How do you threaten and scare by deterrence this terrorist group that has a nuclear weapon in the hold of the ship?

General HARENCAK. You may not be able to do that, Senator, but that does not mean that our forces are not as relevant today as they are.

Senator KING. I am certainly not suggesting that we should abandon it. I am just suggesting should the theory not be updated to take account of modern realities.

General HARENCAK. I am not debating that, sir. I will say our capability as a Nation to do nuclear forensics, nuclear detection, and nuclear attribution is very good, and that alone, those three aspects, will allow us to know where this particular threat came from, and that is that ability to able to respond to it.

Senator KING. I think that is the key, that intelligence is our first line of defense in this new world.

General HARENCAK. Absolutely, sir. Absolutely.

Senator KING. Ms. Bunn, do you have any thoughts on this question of the theory of deterrence as it applies in 2014?

Ms. BUNN. Yes, sir. I would agree that the fundamentals of deterrence are the same in that you are trying to convince a potential adversary that the cost and risk of aggression far outweighs any benefit that they hope to gain. When I have thought about how that might apply to deterrence, I am not sure that our nuclear forces are so relevant there, but the idea of trying to make sure that they do not gain what they are hoping to gain is, I think, the key. Terrorists are willing to die but they want to die accomplishing something. If you can keep them from believing that they are going to accomplish what they want to accomplish, then the theory of deterrence may apply in some way. It is different than it applies to state actors, I believe, and I have far less confidence in deterring terrorists than I would in other states.

That is why our counterproliferation measures are so important. That is why trying to secure nuclear materials around the world, initiatives like the Proliferation Security Initiative where we work with countries all over the world to interdict cargos that could contain nuclear materials, for instance. That is why those are so important. You want to be able to deny them the ability to have the capability, and then if somehow they got it, you want them to think that they are not going to succeed.

Senator KING. You got a lot of smart people to think about these things, and I just hope that there is some real thought being given to how we deal with the current reality. I do not want our current deterrent to be Maginot Line of the 21st century that does not deal with existing threats.

I was recently in the Middle East and I think it was an Israeli said, you know, the terrorists are always very clever and nimble, and we have to be the same, it seems to me.

Well, I have taken my time.

Admiral, I share your concern about the industrial base. I think that is something we really need to spend some time on because it is not something that can just be turned off and on when we need it. You guys need to be thinking about how do we maintain the industrial base.

The final thing I am concerned about is cyber, and that is where the next likely attack is going to be. Are we fully secure in terms of the nuclear architecture and the communications and command? Because that is also a place where terrorists are going to be very clever.

Thank you very much for your testimony.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator King.

Senator SESSIONS.

Senator SESSIONS. Thank you.

I do not know if Senator Donnelly has got a schedule problem. I am going to be here.

Senator DONNELLY. Go ahead.

Senator SESSIONS. Thank you.

I understand, Admiral Benedict, that as the years go by, we are projected to rely more on our sub-sea nuclear deterrent capability. I have heard the figures. Are you able to tell us what those trends are and what percentage of our response force would be submarine-based?

Admiral BENEDICT. Yes, sir. If you are referring to after implementation of the New START treaty, the submarine-based leg of the deterrent will encompass approximately—and there are various ways to count—but approximately 70 percent of the deployed warheads accountable to the United States.

Senator SESSIONS. Which is very important.

Now we have got the new submarine moving forward, and we have had it delayed what? 2 years it has been pushed back.

Admiral BENEDICT. Yes, sir

Senator SESSIONS. Can you tell us the progress or lack of it on that and share with us any thoughts?

Admiral BENEDICT. Yes, sir.

The new Ohio replacement submarine was delayed 2 years. That was done in the fiscal year 2013 NDAA as a result of the Budget Control Act of 2011. That was delayed from 2019 to 2021.

Those reductions, while 2 years to the platform—the Navy made a decision that we would not delay by those 2 years the build of what is called the common missile compartment, as well as all the strategic weapons system material, that which I deliver for the mission. And that decision was made specifically to support our ally, the United Kingdom, which we are supporting under the Polaris sales agreement, which I execute.

So the platform was delayed. The platform is pressurized. We have re-baselined the program to deliver the platform by the necessary dates in order to replace the Ohio submarine as it is retired from service. It is an aggressive schedule, but it is fully funded in the fiscal year 2015 presidential budget submission and it fully supports the needs of the Navy and, most importantly, Commander STRATCOM.

Senator SESSIONS. Well, I should know but I am not sure I do to what extent the President's budget in that regard exceeds the Ryan-Murray spending limits. Do you know?

Well, the President is asking for another \$115 billion over 4–5 years, and I do not know if you are counting that money, which has not been approved because it would require us to burst through the spending caps we just agreed to 10 weeks ago. It is not a little matter. But we do need to keep that program on track.

Ms. Bunn, thank you for sharing with us. You know, things happen that kind of makes the hair stand up on the back of your neck like the Russian invasion of Ukraine. Having been there 3 years ago, I just did not see that coming. I did not see the democratic revolution coming either. So things happen rapidly.

The “Wall Street Journal” reported last year that the former Chief of Staff of the Soviet Strategic Rocket Forces, General Esin, was interviewed, and he said, all in all, about China, China may have 850 warheads ready to launch and that, “other warheads are kept in storage and intended to be employed in an emergency.”

Now, in this open session, is there anything you can comment about that? Which would be about half of what we are projected to go to under the New START—more than half.

Ms. BUNN. What I could say, Senator, is that when we did the Nuclear Posture Review and when we did the follow-on analysis that led to the guidance that the President issued in June, we did take account of not just Russia but other countries as far as we

could see, as far as we could project. And in addition to that, if we are wrong about how we project, we have a hedge. We have a hedge capability with our platforms because of the number of platforms we have and the ability to upload those if we needed to, if the world situation surprised us.

Senator SESSIONS. Well, I am just curious about the concept we keep hearing about, "bilateral," as if China does not exist on the planet. I am afraid it does, and apparently it has a growing nuclear arsenal.

Do you think we could be reaching a point where nuclear reduction should be done on a trilateral basis, if at all?

Ms. BUNN. The Chinese are modernizing their nuclear forces. We do not see them growing. They are modernizing fairly steadily and increasing some. And at some point—at some point—we will need to include others in arms control negotiations. I do not think it is the next step. If we could ever get another reduction with the Russians, there might be one more round there.

Senator SESSIONS. Well, that is a concern.

And, General Harencaak, where are on the new bomber? Are you the one to ask about that? And maybe General Wilson. And what percentage of those bombers—has a decision been made to configure it, or at least some of them, for nuclear weapons?

General HARENCAK. Yes, sir. Senator, the long-range strike bomber is on track. It is exceptionally well run where we are, and 2 years after its initial operating capability, it will be nuclear certified, sir.

Senator SESSIONS. So that decision—

General HARENCAK. That decision has been made. Yes, sir.

Senator SESSIONS. And it would be a considerable improvement over the B-52?

General HARENCAK. Many, many orders of magnitude.

Senator SESSIONS. My time is up. Thank you, Mr. Chairman. I thank all of you for your work.

I sense that the administration and the Defense Department is thinking more clearly about this area, and some of the spending priorities represent a step in the right direction. So I am pleased about that.

Senator UDALL. Thank you, Senator Sessions.

Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman.

This would be for anybody who would like to take a swing at this, but I will start with Ms. Bunn. Do you believe there is enough funding to sustain the current nuclear triad with the modernization steps necessary?

Ms. BUNN. Senator, I think we have a good path that we are on for modernization, and while we have had a few slips because of budget concerns, we are on the path. And I think the key question is are we on path to get where we need to be in the time we need to be there, and I believe the answer is yes.

Senator DONNELLY. I would like to ask this of Lieutenant General Wilson. Who do you think is the biggest threat to the U.S. nuclear arsenal?

General WILSON. I would say right now our arsenal has served us well. Deterrence has served us. The capabilities across the board

have served us for the past 50 years, but all of them are aging from the bombers to the submarines to the missiles. And so the threat is we need to modernize them. We just cannot afford not to modernize them. And I think we are on a path to be able to do that.

Senator DONNELLY. Admiral, what is it that in this area keeps you up at night?

Admiral BENEDICT. Sir, taking off on what General Wilson said, the programs do need modernization, and to me, the thing that keeps me up at night is ensuring that I have an experienced, expertised workforce that can do that modernization. As you can see by the chart, the programs were built many years ago. While they have been in some form of modernization, it is not nearly the type of modernization, the extent of modernization that we are talking about here, recapitalization of the force and that is required in the future. And having that experienced workforce, both civilian, contractors, and military, is what keeps me awake at night, sir.

Senator DONNELLY. Well, as a follow-up to that—and that would be to you or any of the others—what has happened with our workforce in the nuclear forces area? With the challenges we have seen, the problems we have seen, why do you think this has occurred?

Admiral BENEDICT. Sir, I will take the first stab at that. There are certain areas of technology that only this group at the table exercise, specifically things like reentry mechanics, reentry materials, strategic guidance, strategic propulsion, rad hard electronics to the level that we require to perform in the system. You can talk about those. You can do experiments on those, but until you are actually designing systems, fielding systems, and then supporting systems, that is experience and expertise that you just do not get out of a textbook.

Senator DONNELLY. What I am trying to find out is some of the cheating scandal headlines we have seen, some of the other things. What has caused these in your best judgment?

General WILSON. Well, part of it, I think, may be we focused on the culture of perfection, and we know that human beings are not perfect. So what, I guess, we will shift to is how do we make sure we have flawless execution in the field through teamwork, make sure that people understand that they are important and they are relevant.

You know, young soldiers and sailors and airmen and marines—they read things in the paper, and there are lots of things being said about the nuclear enterprise. I keep coming back to 99.5 percent of our airmen are people we are real proud of. They get it. They understand the importance of our mission. So regardless of what we read in the paper, they are dedicated. They are professional. They have pride in their work. They understand the importance of their work. Some of them do not. We had a small number recently, as you mentioned, that did not live up to our core values of integrity. It was not a failure of the mission. It is a failure of a small number of individuals, and the vast, vast majority, 99.5 percent of them, are ones we are real proud of.

Senator DONNELLY. Well, General Harencak, I wanted to follow up on what Senator King was asking too, and that would be in regards to the non-state actors, the tramp steamer that is out in the Atlantic somewhere. As part of preventing this, are you part of that

loop or is that left more towards other parts of the Department of Defense?

General HARENCAK. Senator, the short answer is yes. We are part of this loop. Everything we do, every time we try to modernize a particular weapons system—many of them—these are old. These were science experiments, if you will, that are sitting there. Every time we reinvest into the knowledge of how to do certain things to our forces and to our platforms, we are all contributing together to help in nuclear detection, nuclear forensics, nuclear attribution, the intelligence. So all of us at this table and so many more of us are all part of this.

There is not one particular solution to that tramp steamer thing you talked about. So the answer is everything we do contributes to across the spectrum of conflict, across all the threats trying to fill gaps and seams and protect against it.

Senator DONNELLY. Do the intelligence forces meet with all of you as to, hey, what should we be looking for, what are the things you think might be next on the list? Are those ongoing communications?

General HARENCAK. Absolutely.

Senator DONNELLY. Admiral Benedict?

Admiral BENEDICT. Yes, sir. And as part of my requirement, I am obligated to deliver once a year what is called a vulnerability assessment on each one of my locations, and that is us, SSP, Strategic Systems Programs, in direct collaboration with the local Intelligence Community, as well as the national Intelligence Community, so that we are well prepared to address any threats at each one of my locations.

Senator DONNELLY. And then I would just like to finally ask about cyber, and that is, how do you make sure that with all the cyber attacks that go on, with all the changes almost on an hourly basis in those areas that our system will work, God forbid, if ever needed, but that our system is ready to go?

Admiral BENEDICT. So, sir, we take a very layered approach to that to address that question. First and foremost, our systems which launch we do not permit to be attached to any type of the gig or the Internet or the larger system. They are standalone systems. So with that, we are very concerned about things like counterfeit parts or viruses being introduced. And again, there is a very layered approach from information assurance certification, which I am required to comply with, as well as Nuclear Weapons Standing Safety Group inspections every 5 years that look at entry points into the architecture. Again, we are very concerned about cyber, and so again, through a very measured, layered approach, we try to minimize any entry points to the standalone systems which launch.

Senator DONNELLY. Thank you all for your service.

Thank you, Mr. Chairman.

Senator UDALL. Senator Vitter.

Senator VITTER. Thank you, Mr. Chairman. Thanks to all of you for your service and for your testimony today.

I want to back up, and I apologize if any of this ground has already been covered. But from the 40,000-foot level, if you will, when the Senate passed the New START treaty, there was a very

clear set of discussions and agreement that that would be accompanied by major resources and modernization, and that was a very important prerequisite to a lot of folks in the Senate voting for the New START treaty. I voted against it in part because I did not have confidence that that stuff would happen.

In fact, in terms of those resources and that modernization, are we not significantly behind what was promised in those discussions? And I am not blaming any of you, but as a factual matter, are we not well behind that modernization schedule and that level of resources? Anybody.

Ms. BUNN. They are looking at me.

Senator VITTER. Yes. [Laughter.]

Ms. BUNN. Sir, the updated 1251 report—there have been some slips in schedule since then. Most of those are due to budget constraints. But I think what we see is last year, this year the prioritization of the nuclear mission in large part probably because of those commitments that were made then.

Senator VITTER. Well, I mean, are we not about 34 percent short of the dollar commitment over 5 years that was promised, a \$4.1 billion commitment? And we are not close to that. Am I missing something?

Ms. BUNN. The precise numbers I would have to get for the record, sir.

[The information referred to follows:]

[SUBCOMMITTEE INSERT] .

Senator VITTER. I am being told that a large part of what I am describing is Department of Energy funding, but that was certainly part of the discussion, part of the commitment. Are we not well short on that?

Ms. BUNN. Senator, the funding is not what we thought in the updated 1251 report. And I understand that NNSA will be here to present their budget in a few weeks, and I would defer to them on those NNSA warhead issues.

Senator VITTER. Well, here is what I am trying to wrap my head around. New START was premised on that. We are not keeping those promises for whatever reason. Also, I think it is very fair to say our relationship and trust level with Russia has hit a recent all-time low, and yet we are talking about further nuclear reductions. Why? None of that seems to add up to further nuclear reductions in my mind.

Ms. BUNN. Senator, the President did, as a result of the big study that was done over 18 months, say that we could reduce our nuclear forces and still maintain a safe, effective, and reliable deterrent and assure allies, but that we would pursue negotiations with Russia. We have suggested that to the Russians. They are not particularly interested. They say that they are focused on implementing New START by February 2018, and so I do not foresee that happening anytime soon.

Senator VITTER. Well, again, just for the record, I want to express concern with the fact that the funding and the modernization that New START was premised on is not happening. So to me, that calls into question the New START reductions to begin with, and yet we are discussing, at least theoretically, further reductions. Again, for the record, I want to underscore the fact that clearly

since the passage of New START, the ratification of New START, our relationship and trust level with the Russians has taken a nose dive. So I just think all of that adds up, should add up, to extreme caution about further nuclear reductions and further agreements with the Russians.

With regard to existing agreements with the Russians, are there ongoing concerns of their not keeping their end of the bargain in significant circumstances?

Ms. BUNN. Senator, with regard to New START, we have just finished one of the 3-week compliance groups, and while there are small issues, there is no big problems with New START implementation.

Senator VITTER. I was actually talking about preexisting obligations of the Russians prior to New START.

Ms. BUNN. Yes, sir. As I mentioned in my statement, we do have concerns about the INF Treaty compliance.

Senator VITTER. And so there are real concerns there about compliance?

Ms. BUNN. Yes, sir.

Senator VITTER. And has there been any positive resolution or movement toward positive resolution on those in the last year, say?

Ms. BUNN. Our concerns have been raised with the Russians. We raised them a number of times with the Russians. Senior officials have. We were not satisfied with their response and we will continue to raise it.

Senator VITTER. Okay.

General Wilson, I wanted to ask you. There were several recommendations with regard to 8th Air Force and Global Strike and some have been implemented and some have not been implemented in terms of some of the organizational recommendations. Would implementing all of those organizational recommendations not be helpful in terms of having a more effective command through both 8th Air Force and Global Strike?

General WILSON. Senator Vitter, I am not aware of what specific organizational challenge that we have not implemented.

Senator VITTER. Well, I will come back to that.

Another issue with regard to Global Strike is recertification of a second weapons storage area. Where does that stand and how comfortable are you without our having that second weapons storage area?

General WILSON. Well, certainly having one of anything presents risk. What we are working on now is to come up with a comprehensive weapons storage facility update. All of our WSAs are old. Our oldest is 52 years and the average is just over 38 years. So we are building a plan with an investment strategy to bring forward to recapitalize all the WSAs at our bases over a 15-year period, and we will be working on that to bring forward this next year.

Senator VITTER. Let me jump back quickly. I am out of time. But to my previous comment, I think the recommendation to remove all non-bomber-related missions from 8th Air Force and Global Strike was implemented, but the recommendation to assign all bombers to the 8th Air Force was not. And specifically, do you think implementing that recommendation would be helpful?

General WILSON. We have a terrific relationship with Air Combat Command which maintains the B-1. Our focus has been on the dual-capable bombers, on the B-2 and the B-52, making sure they can be safe, secure, and effective in their nuclear mission, as well as to do their conventional mission. We have a terrific relationship with Air Combat Command who maintains the B-1.

Senator VITTER. Why did the Schlesinger Commission recommend that reassignment, and do you disagree with that thinking?

General WILSON. I cannot specify why the Schlesinger report recommended that. I think there is goodness in the way we have it today. Right now, the B-1s are over in the Middle East. They have been over there for the last 13 years. Our B-52s have been in the continuous bomber presence for the last 10 years in the Pacific. And we have been focusing, quite frankly, on rebuilding and reenergizing the nuclear enterprise. So that has been our number one priority to make sure our dual-capable bombers are capable of doing their mission.

We also have that Global Strike capability. Today our B-52s have been in the Pacific, and the B-1s have been in the Middle East in the fight since 2001.

Senator VITTER. Okay. Thank you.

Senator UDALL. Thank you, Senator Vitter.

Senator Fischer.

Senator FISCHER. Thank you, Mr. Chairman, and I thank the witnesses for being here today.

Secretary Bunn, last year, Secretary Creedon testified that the analysis of alternatives to replace the Minuteman III ICBM would be completed in 2014. Can you tell me the status of that study, and do you think we are going to see a completion date on it this year?

Ms. BUNN. Senator, the study is on course, and I do anticipate we will see that study completed this year.

Senator FISCHER. Thank you.

General Harencaak and General Wilson, I know that the study is going to probably cover this in detail, but can you discuss the risks and the benefits that we are looking at in extending the current system?

General HARENCAK. Well, I can start, ma'am, and then I will turn it over to General Wilson.

The Minuteman III system dates to 1970. While we are doing an extraordinary job in keeping this weapons system, we do have to—our plan is to keep it to 2030, and that means we are going to have to sustain and modernize this.

Everything we do to sustain and modernize the current Minuteman III will be applicable to any possible follow-on. For example, if we decide we are going to modernize with the propulsion or the guidance system, we are staying in g, if you will, with the GBSD studies to make sure that whatever we do will be applicable to whatever comes out.

I will say that keeping the Minuteman III past 2030 just increases our risks. It is already, as I said, a system that dates to 1970.

General Wilson.

General WILSON. I do not have much to add from General Harencak. Built in the 1970s, designed for 10 years. We are going to maintain it and sustain it through 2030. Everything General Harencak just talked about, whether it be guidance, propulsion, fuses, we are going to need to modernize over the years, and we are doing that.

We will also make sure we can transition each of those technologies into the ground-based strategic deterrent follow-on, and as Elaine just mentioned, that AOA will be complete this June.

Senator FISCHER. You said we are on track to do that. So the modernization is taking place and it is meeting the recommendations that you folks have for it.

General WILSON. Yes, ma'am.

Senator FISCHER. Good.

Admiral Benedict, in your opening, you talked about the submarines were the most survivable on the deterrent. What about all the technological innovations that we are seeing? Are you concerned that in the future something may come about where it will not be, and how would you address that then?

Admiral BENEDICT. Yes, ma'am. We are concerned about that. And as we did the initial design and did the analysis on the replacement for the Ohio class submarine, which is called the Ohio replacement platform, our largest focus was on survivability and the stealth aspects of that platform. Scheduled to start construction in 2021, that class of boat will be deployed through the early 2080s. So we have worked very closely with the Intelligence Community and the technology analysts. We are looking out and we are ensuring that we have the flexibility built into that platform to address what we know but, most importantly, to adjust for what may come in the future, ma'am.

Senator FISCHER. Do you factor in the costs of any adjustments that may happen in the future? I know when we do not even know what is going to be that innovation that is out there that could be a detriment to us, is there any way that you can kind of factor that in?

Admiral BENEDICT. What we do factor in when we look at the lifecycle cost of the platform are those known upgrades, modernization periods to address the known knowns. It would be impossible to address the unknown unknowns, ma'am.

Senator FISCHER. Thank you.

General Harencak, I understand that the Air Force is evaluating their technical feasibility and keeping empty silos warm. Is that correct? To have that warm status on them?

General HARENCAK. Yes, ma'am.

Senator FISCHER. And in the fiscal year 2014 defense authorization bill, Congress expressed its preference for keeping them in a warm status. Can you talk a little bit about the benefits on why they should be kept in a warm status?

General HARENCAK. Well, there are two main reasons, ma'am. The number one reason is the way the system was built, it was interconnected separate systems. If we remove missiles, we need to keep the silos in a warm status so we maintain the continuity between them and the communication aspect that was built for many, many, many good reasons back in the 1960s. So it is much easier.

It is much less expensive for us to remove a missile and then keep the communication system and the actual tactical unit which is in groups of 50s together. So there is a very real operational reason why we would not want to do it.

In other words, if we do not keep it warm, we would eliminate the silo. By eliminating the silo, it cuts the connection, and it requires us to spend a lot of money, a lot of effort to now recertify the weapons system and to reconnect those communications links.

The second reason is by allowing us to remove missiles and still keep them in a warm silo, it allows us to pick those silos that are worst performing, that have the most water intrusion, that have the most infrastructure problems with it. And it also allows us to recapitalize and sustain our system with the ease of being able to put a missile into a warm silo, then work on the other silo.

So those two main reasons, ma'am.

Senator FISCHER. With that interconnectedness, you said that was less expensive to keep the silo warm and that was one of the reasons?

General HARENCAK. Absolutely, ma'am.

Senator FISCHER. So if we are going to see any decommissioning of these missiles, would it be your recommendation that the silos would be kept warm?

General HARENCAK. It would be my highest recommendation.

Senator FISCHER. I assume you know there are proposals out there that we need environmental studies done on the ICBM areas in order to have them decommissioned. In your opinion, do you think that is a wise use of our resources?

General HARENCAK. Ma'am, the United States Air Force believes that we should maintain the silos in a warm status, and I will leave it at that.

Senator FISCHER. That is a military decision.

General HARENCAK. That is the belief of our Chief, Under Secretary, and mine that it is in the best interest of us to keep our silos in a warm status.

Senator FISCHER. Thank you, General. I appreciate it.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator Fischer.

Let me recognize myself at this time.

General Wilson, we had a nice visit earlier today. I want to turn to the cheating scandal. I do not want to get ahead of the ongoing investigation, but my understanding is the missile combat crews are required to achieve almost 100 percent score on their readiness exams in order to succeed in their careers. Is this the most effective method for evaluating the knowledge and readiness of these launch officers? And what alternatives to the exam model are you investigating?

General WILSON. Thank you, Senator.

We are investigating all kinds of different alternatives of how we both train, test, and evaluate. As I mentioned to you earlier today, I think 100 percent is an unrealistic standard. It is not the right way to go. So we have got experts across the field. Air Education and Training Command is helping us. We have got behavioral psychologists. We have got a lot of folks looking at the problem as to what is, again, the best way to train, test, and then evaluate.

As I mentioned to you, I have recently, within the last few days, taken the OPRE from all the work we have got going on. We have got three main efforts today. We have a command-directed investigation that I ordered looking into this problem. We have what I call a force improvement program that we have modeled, quite frankly, off of Navy, work that they have done and taken their best practices, and what that is is a ground roots effort to get to the people doing the job and understand those things that are inhibiting them from doing their job better. I took the first initial OPRE from the force improvement program on Monday. We are going to take those two efforts and we have another effort underway, again, with some scientists, as well as AETC to help us look through the problem set. We are going to roll all those up with surveys from the families, as well as the leadership, and to provide those recommendations back to the Secretary of Defense to meet his deadline here later in March.

Senator UDALL. Given the importance of your mission, we look with anticipation to what those studies and recommendations will be.

I understand upwards of 92 missile officers were implicated. That has meant you have had to bring in additional crews from elsewhere, and then you have had to increase the workload of existing crews. A couple of questions along that theme.

How long do you anticipate this to last? And has the readiness of the missile force suffered as a result?

And I want to point out, as we all have, that the tireless, quiet professionalism of the vast majority of the men and women of our nuclear enterprise should not be damaged by the alleged actions of a few.

General WILSON. Yes, sir. So let me answer the second question first. The readiness has not suffered, to start with. What we have done is we have taken crews from Minot and F.E. Warren, and they have augmented the team at Malmstrom Air Force Base. We will shift the output coming out of the schoolhouse at Vandenberg Air Force Base, and we expect to be back up to full strength by late spring on the number of crews that we have available to do the mission.

As a side thing that came out of this, what we found is that the crews coming from both Minot and F.E. Warren to Malmstrom are learning a great deal, and so as we work the standardization amongst all the missile crews, we found that the folks are each learning from each other. And we are taking this opportunity to make each of the teams better.

So they are spending about a month from each of the bases at Malmstrom. Then they are going back and rotating crews. The crews are on the same work schedule. So they are typically doing eight alerts a month, and nobody is exceeding that. So we have not increased their workload. What we have done is we found out we were able to take best practices and best ideas at all the bases because all the bases are, quite frankly, now working at Malmstrom Air Force Base.

Senator UDALL. Admiral Benedict, could I turn to the discussion that you had in the Navy, oh, I think about a year and a half ago about the interoperable warhead. It would combine the W78 with

the W88. Do you still have the concerns that were expressed some 18 months ago?

Admiral BENEDICT. Sir, 18 months ago, we expressed concerns about doing the necessary technology work, commonly referred to within the domain space as 6.2, 62A, exploratory engineering analysis, as well as the costing of that. We expressed those concerns to the Nuclear Weapons Council. We were able to work through those concerns with both the Nuclear Weapons Council, as well as the Department of Energy, NNSA. And we were on a path to fully support—the Navy is—the IW effort.

In the President's budget just recently submitted the IW project is delayed to a date no earlier than 2030, and so that effort will be suspended until such time as appropriate with lead time to support that date, sir. And when that happens, we will fully support it.

Senator UDALL. I know General Wilson will understand the spirit of the question I am going to ask you and you will as well. The ICBM cheating scandals. Give me another service's perspective. How do you test the readiness of your missile crews?

Admiral BENEDICT. So the first thing that I would like to say is I truly appreciate General Wilson's and the Air Force's transparency in sharing with the Navy what they are learning and what they are doing. And I would also like to assure you that as soon as we found out, we, the Navy, both myself, as well as Vice Admiral Connor, called General Wilson and other general officers in the Air Force and offered whatever assistance we could. And so there is great transparency between the Navy and the Air Force as we work to support the Air Force in this.

From a Navy standpoint, one of the things that I have the fortunate opportunity to leverage off of is the nuclear power culture that exists on a submarine. That is an innate culture that is trained and instilled in every officer and enlisted individual who goes to sea on a submarine. The absolute high levels of standards and ethics that when reports are made and individual actions are assigned and reported as complete, that for the safety of the boat, for your individual safety, and the safety of your crew member, that those are taken as absolute.

So we work off of five fundamental principles, and I think that is what we tried to share—Admiral Connor did—with General Wilson: procedural compliance, level of knowledge, questioning attitude, forceful backup, and formality. All of these, those five traits, give us a level and layered approach to ensure that while we are all human and capable of making mistakes, that we as a team are much stronger if we implement those five. And so those are the things that we are sharing with the Air Force, and fortunately the Air Force is sharing with us what they are learning. And we will, I assure you, integrate their lessons learned into our training programs.

Senator UDALL. Secretary Bunn, I want to turn to you for my last question, but I did want to share with the committee—I guess we are a subcommittee, but we are proud of what we do—Senator King's comments earlier that from the early days, Senator King, the DOE has been studying small nuclear devices. And I am told that Albert Einstein, of all people, urged FDR to do the kind of re-

search into so-called suitcase bombs. So that work has proceeded apace in the DOE. But your question about deterrence in the 21st century is a fundamental one and I hope this committee can continue to consider it, study it, and discuss it. It is a challenging environment, as we know.

I mentioned, Madam Secretary, in my initial remarks my interest in your comments on the fact that we are breaking up the functions of the Global Strategic Affairs Office. You know the details of how that is going to operate. Do you think that having your office separated from other functional areas will make it easier or harder to perform your duties? And I ask that in the context of the command of this hearing. There is a real focus on modernization, efficiency, safety, training.

Ms. BUNN. Senator, in this case, I do not think it will make much difference. I say that because there is some logic to having cyber, space, nuclear missile defense, together in an ASD ship. There is also logic in having, where we are moving to, strategy, plans, capabilities to having nuclear missile defense policy there as well. So no matter where my office sits on the organization chart, I will continue to work across policy with the relevant offices, cyber, space, plans, strategy, the regional offices in Asia, Europe. So we will continue to do that.

I think the important issue is senior attention, and with the Secretary—Senator Sessions mentioned earlier the Secretary's remarks on the importance of the nuclear mission with the nominees that we have for Deputy Secretary and Under Secretary, if they are confirmed, I think we will have that senior attention. And that is what is important in the way my office operates.

Senator UDALL. Thank you for those insights. And we will watch this with interest certainly on an ongoing basis.

I do not know if those are the bells for the series of votes to begin.

If I could turn to Senator Sessions for any other comments or questions he might have.

Senator SESSIONS. Well, briefly, Ms. Bunn, our understanding is that we could go back and modernize the triad over a period of years and keep the net cost of that in the modernization of the weapons at a level of around 5 percent of the defense budget. Is that consistent with what you understand?

Ms. BUNN. Senator, I hesitate to use a precise percentage because so much depends on what is counted and what assumptions are made. But I would say that it is a low digit, a low single digit percentage of the defense budget.

Senator SESSIONS. Well, I think that is important to us because we need a healthy triad and healthy nuclear deterrent. As the Defense Department wrestles with its priorities, I think they are going to have to put some of this in there.

The Nuclear Weapons Council is something I have felt good about. I have believed—well, I have been pretty openly questioning the Energy Department. They are sort of out there. They get a bunch of money and they get to do it on their own time. But I think our Nuclear Weapons Council is an effective way to begin to make sure that what they do is what the Defense Department needs and not a dime more is spent than necessary.

Do you participate with that, and do you think it could be strengthened? Are there any changes needed to it?

Ms. BUNN. Senator, I participate at the next level down from the Nuclear Weapons Council. That is at the Under Secretary level, and I am a layer below. But I do participate in the group that supports our principals. And I think you are right that the Nuclear Weapons Council has been very active in making sure that what the Department of Defense needs, what our needs are, and what NNSA puts forth are closely synchronized. And the Department has also given a lot of attention to cost estimation and program management and those kinds of issues and even volunteered some assistance of the DOD Office of Cost Analysis and Program Evaluation in past years looking at some of the facility modernization at NNSA.

Senator SESSIONS. Well, I hope that will continue. They have got to participate with intensity in this effort.

I do not want to overstate my happiness about where we are financially and the way the programs are going. I think we have seen a more healthy approach in the last year, and I compliment the Defense Department. But the ballistic missile submarine has been delayed 2 years, at least, as you have told us. The air launched cruise missile has been delayed 2 years or more. Right?

Ms. BUNN. 1 to 3 years. The budget reflects 3 years, but we will try to buy back as much of that as possible.

Senator SESSIONS. The follow-on ICBM. We do not have a decision on that yet to go forward. Right?

Ms. BUNN. Correct.

Senator SESSIONS. So that is still in limbo.

The B-51 life extension was delayed 2.5 years, maybe more?

Ms. BUNN. Well, sir, since fiscal year 2014, there has been about a 6-month slip in the B-61-12.

Senator SESSIONS. Well, I think that is it. I just think maybe I go back a little further. We previously projected it and then we extended it some more.

Ms. BUNN. Yes, sir.

Senator SESSIONS. I think it is now over 2 and a half years.

So we talked about the W-78/88 interoperable warhead. That has been delayed considerable. Maybe up to 5 years now instead of 2. It was 2.

Then the plutonium handling facility is deferred at least 5 years, Admiral Benedict or Ms. Bunn?

Ms. BUNN. Yes, sir. The NWC has gone back to look at how to modernize what we need in a more modular—

Senator SESSIONS. I support a more frugal approach. I will give you an A, but it is delaying things.

The uranium processing facility is delayed 4 years I understand, and DOE weapons activities are \$2 billion short of New START commitments over the last 5 years.

In this place, words do not mean much. QDR does not mean much. It is whether the money is getting out and whether the projects are getting completed.

Senator UDALL. I am still trying to get an A from Senator Sessions. [Laughter.]

Senator King I think had another comment or a question. We have a few more minutes before we have got to head to the floor.

Senator KING. Ms. Bunn, I just wanted to tell you a story. You mentioned about the council was one level above you. 40 years ago, I worked as staff member in this place, and one of my jobs was to set up hearings. And I once called OMB to get a witness for a particular hearing, and they gave me this title of Deputy Under Secretary or something, and I said, well, I do not really understand these titles. Can you tell me who this person is? And the fellow on the other end of the line gave me an answer, which if I ever write a book about Washington will be the title of my book. He said, he is at the highest level where they still know anything. [Laughter.]

What bothers me is that I know that I am now above that level. [Laughter.]

But I just wanted to try to make you feel better. You are around in that vicinity.

Thank you very much.

Ms. BUNN. Thank you, Senator.

Senator UDALL. Senator Fischer?

Senator FISCHER. If I can just have a short answer from the panel here. We hear about the importance of uploading the weapons, and I would just like to hear from you folks how important you believe it is to retain that ability if we are in a crisis scenario and where we have missiles stacked over here and a couple submarines over here, and if it is a crisis, how are we going to get it all done in time and if it is going to work. A long question but just give me your thoughts. Ms. Bunn?

Ms. BUNN. It is very important to maintain a hedge. The more surprised you are the longer time you have to bring it back.

Senator FISCHER. So is uploading vital in a crisis situation? And I guess, if so, how can we better prepare for it? Besides intelligence, physically how are we going to prepare for it?

Ms. BUNN. There are two reasons that one might want to upload. One is there were a technical failure in some of our systems or warheads and you needed to compensate for that, and the other is if there were a geostrategic surprise. In other words, your projections—you got it wrong. And that kind of surprise—you have probably got a longer ramp-up time and you have got longer to do it. I guess I would say we believe that we have sufficient forces operationally deployed now to deal with short-term crises.

Senator FISCHER. General?

General WILSON. Senator, I would way that today we have 450 ICBM's out in the field. That is the bedrock of our strategic stability. We do not need to upload those.

For our bombers, certainly if we were loading weapons, that sends a very visible signal to any adversary. So it is a deter and assure piece for the bombers.

Senator FISCHER. But if we have these extra warheads at DOE facilities, you believe you would have enough time, as the Secretary said, to be able to move them to the silos. If all hell breaks loose, if we are going to have everything happen, you could still, hopefully, have the opportunity to upload more? No.

General WILSON. We do not plan to upload our silos. We are going to use them once, if we ever use them.

Senator FISCHER. Thank you.

Admiral BENEDICT. Yes, ma'am. We keep our weapons in a position where we would be able to upload and we routinely test to assure ourselves that the performance of the system in an uploaded position is measurable.

Senator UDALL. I want to thank the panel. I want to thank all the Senators who participated.

We will keep the record open for 3 days, through the end of the week.

I certainly have a number of questions. And, General Harencak, I did not get to the question I had for you, but I have five or six questions and for the rest of the panel, I do as well. So thank you for being here today.

The hearing is adjourned.

[Whereupon, at 4:07 p.m., the subcommittee adjourned.]