

HEARING TO RECEIVE TESTIMONY ON BALLISTIC MISSILE DEFENSE POLICIES AND PROGRAMS IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2014 AND THE FUTURE YEARS DEFENSE PROGRAM

THURSDAY, MAY 9, 2013

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

The subcommittee met, pursuant to notice, at 2:32 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, Fischer, and Lee.

Committee staff member present: Peter K. Levine, staff director.

Majority staff member present: Richard W. Fieldhouse, professional staff member.

Minority staff member present: Robert M. Soofer, professional staff member.

Staff assistant present: Lauren M. Gillis.

Committee members' assistants present: Casey Howard, assistant to Senator Udall; Marta McLellan Ross, assistant to Senator Donnelly; Lenwood Landrum, assistant to Senator Sessions; Peter Schirtzinger, assistant to Senator Fischer; and Peter Blair, assistant to Senator Lee.

OPENING STATEMENT OF SENATOR MARK UDALL, CHAIRMAN

Senator UDALL. The Subcommittee on Strategic Forces will come to order. Good afternoon. I will open with a short statement and then Senator Fischer is here; we'll turn to her; and then we will look forward to hearing what our witnesses have to say.

We are here today to hear testimony on the ballistic missile defense programs and policies in the President's budget request for fiscal year 2014 and related matters. This has been a busy year for missile defense. On March 15th, Defense Secretary Hagel announced a new series of missile defense plans for the homeland. These included deployment of 14 additional ground-based interceptors in Alaska, deployment of an additional missile defense radar in Japan, and termination of the development program for the Block 2B version of the Standard Missile 3 interceptor.

The Department has also taken a number of prudent and timely missile defense actions in response to the bellicose rhetoric and threats from North Korea, including the deployment of a THAAD battery to Guam, the deployment of Aegis missile defense ships off the Korean Peninsula, and deployment of the sea-based X-band missile defense radar into the Pacific Ocean.

We will want to learn today about the Department's programs, policies, requirements, and capabilities to defend the homeland against current and potential future missile threats from North Korea and Iran, and to defend our forward-deployed forces, our allies and friends against existing and growing regional missile threats from those nations.

Our missile defenses must be operationally effective, cost-effective, and affordable. This latter point is especially important at a time when Congress is imposing harmful funding reductions across government programs, including missile defenses. In this regard, our missile defense testing programs are critical to understanding and demonstrating the capabilities of our systems and giving us confidence that they will work as intended. Many tests are coming up this year and we are keen to learn of the plans and progress in correcting the problems we encountered in earlier flight tests with the kill vehicle for the ground-based interceptor. We also want to understand if our missile defense acquisition programs and practices can provide improved capability with reduced technical, schedule, and cost risk.

To help us understand these complex issues, we have five expert witnesses with us today. The Honorable Madelyn Creedon is the Assistant Secretary of Defense for Global Strategic Affairs and is responsible for policy and strategy matters relating to ballistic missile defense, among many other issues. Consequently, she is a frequent witness before the committee, and we welcome you back to the subcommittee.

The Honorable Michael Gilmore is the Director of Operational Test and Evaluation at the Department of Defense. He plays a crucial role as an independent adviser to the Department and Congress on the adequacy and results of our operational testing and on the performance of our weapons systems, including missile defense systems.

Lieutenant General Richard Formica is the Commander of U.S. Army Space and Missile Defense Command and also the Commander of the Joint Functional Component Command for Integrated Missile Defense under U.S. Strategic Command. We welcome you back before the subcommittee. I understand you're planning to retire this summer, so I want to offer our special thanks for your many years of dedicated service to the Nation and to the Army.

Vice Admiral Jim Syring is the Director of the Missile Defense Agency, which is responsible for designing, developing, integrating, and building most of our Nation's missile defense capability, certainly among the most complex weapons systems we have ever developed. This is his first appearance before the subcommittee as the Director.

Ms. Cristina Chaplain is the Director of Acquisition and Sourcing Management at the Government Accountability Office and leads

their annual effort to review our missile defense acquisition programs, among others.

We welcome you all to the subcommittee and we welcome you, Ms. Chaplain, back to the subcommittee. In the interest of time, I would ask each of you to make very short opening comments, no more than two minutes, before we begin our questions. We'd be happy, of course, to include your prepared statements in the record.

Before turning to you, I did want to ask Senator Fischer, who's serving as our ranking member pro tem today, for any opening comments she may wish to make.

STATEMENT OF SENATOR DEB FISCHER

Senator FISCHER. Thank you, Mr. Chairman. It is a pleasure to be with you once again today. I will forego making any opening statement so that we have more time to hear from our expert witnesses and be able to ask them questions. But I would ask that my opening comments be included in the record.

[The prepared statement of Senator Fischer follows:]

[SUBCOMMITTEE INSERT]

Senator UDALL. Without objection, that will be done.

Let's go right to the—Madam Secretary, thank you for being here and the floor is yours.

STATEMENT OF HON. MADELYN R. CREEDON, ASSISTANT SECRETARY OF DEFENSE FOR GLOBAL STRATEGIC AFFAIRS, DEPARTMENT OF DEFENSE

Ms. CREEDON. Thank you very much. Senator Udall, Senator Fischer: It's a pleasure to be here today.

I would like to turn to the progress and highlight some of the progress that we have made on some key policy priorities, particularly the recent decisions to strengthen homeland defense. The U.S. homeland is currently protected against potential limited ICBM attacks from North Korea and Iran by the ground-based midcourse defense, or GMD. As stated in the 2010 ballistic missile defense review, we are committed to maintaining an advantageous position vis a vis those and other threats.

To do so requires continued improvement to the GMD system, including performance enhancements to the ground-based interceptors and the deployment of new sensors, along with upgrades to the command and control networks. To stay ahead of the threat, as we have said we would do, in this case the growing threat from North Korea, President Obama recently decided to strengthen the U.S. Homeland missile defense posture. The decision was announced by Secretary of Defense Hagel on March 15 and DOD is now in the process of implementing that decision. This decision also recognized the delay to the SM-3 2B program, largely due to the fiscal year 2012 funding cuts and to the fiscal year 2013 continuing resolution.

As Secretary Hagel announced, DOD will add 14 interceptors to the GMD system, for a total of 44 deployed GBIs by 2017, and deploy a second TPY-2 radar to Japan. Deployment of the second radar to Japan will provide improved early warning and tracking of any missile launched from North Korea at the United States or Japan and will improve both homeland and regional defenses.

We had planned to deploy the SM-3 2B interceptor for the defense of the United States from land-based sites in Europe, but the deployment schedule had been delayed to at least 2022 due to cuts to the requested level of funding for the interceptor and the continuing resolution. As a result, we decided to shift resources from this program to the GBI program to cover the cost of the 14 additional GBIs, as well as to the technology development line to develop new advanced kill vehicle and booster technologies. These decisions will allow us to improve our defense against any ICBM's from Iran sooner than we otherwise would have, while also providing additional protection against the North Korean threat.

To be clear, there is no money in the fiscal year 2014 budget request for the SM-3 2B program and we are no longer planning for phase 4 of the European Phased Adaptive Approach, or EPAA. As a result of much discussion, our allies understand and accept this SM-3 2B decision and we have reinforced with them that our commitment to phases 1 through 3 of the EPAA remains ironclad.

We have also worked with other regional allies and partners in the Asia-Pacific and the Middle East to improve cooperation and enhance regional missile defenses. We have deployed a Terminal High Altitude Area Defense System, THAAD, to Guam as a precautionary move to strengthen our defense posture against the growing North Korean regional ballistic missile threat, and the deployment strengthens our defense capabilities for American forces and citizens in the U.S. Territory of Guam. This deployment is an example of the benefit derived from our investments in mobile missile defense systems, which can be deployed worldwide as required.

We also continue to work with our GCC partners on regional missile defense cooperation, and of course we continue to support Israel and its missile defense systems, including the Arrow codevelopment program.

The President's budget request for fiscal year 2014 reflects DOD's goal of retaining the flexibility to adjust and enhance our defenses as the threat and as technologies evolve. Our most vital security commitments, the defense of the United States, and our protection of our allies and partners and our forces around the world, demand nothing less.

Thank you and I look forward to your questions.

[The prepared statement of Ms. Creedon follows:]

Senator UDALL. Thank you, Secretary Creedon.

Dr. Gilmore.

STATEMENT OF HON. J. MICHAEL GILMORE, DIRECTOR, OPERATIONAL TEST AND EVALUATION, DEPARTMENT OF DEFENSE

Dr. GILMORE. Mr. Chairman, Senator Fischer, members of the committee: I just want to emphasize briefly that we are incorporating increasing amounts of operational realism and therefore complexity in the missile defense tests that we do. That's important so that everyone involved from the President on down to the combatant commanders and the people who operate the system can understand what it truly can and cannot do.

The most recent example of that was Flight Test Integrated 0.1, conducted late last year. That involved the simultaneous, nearly si-

multaneous intercept by Aegis, THAAD, and Patriot of both ballistic missile and air-breathing targets. There was extensive participation by the combatant commands in that test and they used it to develop tactics, techniques, and procedures that are being put into real use in U.S. Central Command today.

We'll follow that up with the first multi-system operational test, FT0, Flight Test Operational, 0.1, later this year, involving both Aegis and THAAD. We're going to do the same thing with the ground-based missile defense system. Given what we learned recently with the successful non-intercept test, we will probably conduct early in fiscal year 2014 an intercept test using the Capability Enhancement II kill vehicle, which is the one that had the failure a couple of years ago to intercept. We're also going to do an intercept test using the Capability Enhancement I kill vehicle, which will comprise the majority of the fleet for some time, within about a month.

Thereafter, in fourth quarter of fiscal year 2015 we will conduct a test in GMD of a true ICBM-class target, and we will follow that up with tests incorporating increasing realism, including realistic countermeasures, salvo engagements, multiple simultaneous engagements.

So I strongly support the deliberate, rigorous test program that Admiral Syring and the MDA are executing. That program allows the time needed to do rigorous pre and post- test analysis. It enables us to learn and correct problems. In fact, although it may sound somewhat ironic and counterintuitive, to me the value of the test program is demonstrated most by the failures that have occurred, because those failures that have occurred within the last couple of years for both Aegis, Standard Missile, and the ground-based interceptor, would not have been discovered if not for the test program. Modeling and simulation would not have uncovered those problems.

So thank you and I will be happy to answer your questions.

[The prepared statement of Dr. Gilmore follows:]

Senator UDALL. Thank you, Dr. Gilmore.

Lieutenant General Formica.

STATEMENT OF LTG RICHARD P. FORMICA, USA, COMMANDER, U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND/ARMY FORCES STRATEGIC COMMAND, AND COMMANDER, JOINT FUNCTIONAL COMPONENT COMMAND FOR INTEGRATED MISSILE DEFENSE

General FORMICA. Mr. Chairman, Senator Fischer, members of the committee: First, Mr. Chairman, thank you for your kind words. It's been an honor and a privilege to serve the United States of America in uniform and to have the opportunity to appear before this subcommittee on a couple of occasions. I would like to add my thanks to you and all of the committee for your support of our soldiers, sailors, airmen, Marines, civilians, and families.

My intent today is twofold: to highlight the missile defense operations and the force provider role that U.S. Army Space and Missile Defense Command, SMDC; and the role that the Joint Functional Component Command for Integrated Missile Defense plays

as an operational integrator of joint missile defense capabilities for U.S. Strategic Command.

At SMDC, to accomplish our assigned mission we focus on three core tasks. In operations, we provide trained and ready space and missile defense forces and capabilities to the Nation. Those are capabilities we provide today. In capability development, we build the future space and missile defense forces. Those are the capabilities we'll provide tomorrow. And in material development, we research, test, and integrate space, missile defense, and other related technologies. Those are the capabilities we'll provide the day after tomorrow.

As the Operational and Functional Component Command of U.S. Strategic Command, at JFCCIMD we perform key mission tasks to facilitate the execution of STRATCOM's missile defense responsibilities. Those tasks include: synchronizing operational level planning for missile defense; providing operational support and asset management for missile defense forces; integrate joint BMD training, exercises, and test activities with the warfighters; and to advocate for future capabilities.

With the combined efforts of the Department of Defense and with the support of Congress, progress has been made to evolve global missile defense capabilities, to strengthen the defense of the homeland, and to advance our capability to defend our deployed forces, allies, and friends abroad. During this period of fiscal uncertainty, this committee's continued support of missile defense and the soldiers, sailors, airmen, Marines, and civilians who develop, deploy, and operate those missile defense systems remains essential.

I look forward to answering any of your questions. Thank you. [The prepared statement of General Formica follows:]

Senator UDALL. Thank you. Thank you, General.
Admiral Syring.

**STATEMENT OF VADM JAMES D. SYRING, USN, DIRECTOR,
MISSILE DEFENSE AGENCY, DEPARTMENT OF DEFENSE**

Admiral SYRING. Good afternoon. Chairman Udall, Senator Fischer, distinguished members of the subcommittee: I appreciate the opportunity to testify before the committee for the first time as the Director of the Missile Defense Agency.

My priorities are to continue strong support of the warfighter, support what we have deployed, and deliver more capability to the combatant commanders. We are taking several steps over the next few years to implement Secretary Hagel's March 15 guidance to strengthen our homeland defenses. First among those steps is returning the redesigned GBI to flight testing later this year. The successful controlled test flight of the GBI earlier this year gives us confidence that we have addressed the causes of the end game failure in the December 2010 test. Later this month we will demonstrate the improvements made to the GBI fleet in an intercept test of the first generation operational exoatmospheric kill vehicle, the first such test since December 2008.

We are increasing the operational fleet of GBIs from 30 to 44 by 2017. This will involve the reallocation of GBI's and the refurbishment and reactivation of Missile Field 1 in Alaska. We have already begun to evaluate locations in the continental United States

to determine a site suitable for possible future deployment of homeland defense interceptors. Also, in order to provide more robust sensor coverage for our homeland defense, this year we are working with our Japanese partners to deploy a second TPY-2 radar to Japan.

We will continue to strengthen our regional defenses with funding to operate and sustain, command, control, battle management, and communications, and TPY-2 radars at fielded sites, and we will deliver more interceptors for THAAD, Aegis BMD, and others. MDA will continue to fund upgrades to the phase 1 of the European Phased Adaptive Approach and proceed on our schedule to complete the Aegis Ashore sites in Romania by 2015 and Poland by 2018.

Mr. Chairman, when I arrived at the Missile Defense Agency last November I was impressed with the organization and professionalism of the workforce. They are highly motivated, they're the best at what they do. It's an honor to serve with them every day.

I ask that my written statement be accepted for the record.

Senator UDALL. Without objection.

Admiral SYRING. I look forward to answering your questions, sir. [The prepared statement of Admiral Syring follows:]

Senator UDALL. Thank you, Admiral.

Ms. Chaplain.

STATEMENT OF CRISTINA T. CHAPLAIN, DIRECTOR, ACQUISITION AND SOURCING MANAGEMENT, GOVERNMENT ACCOUNTABILITY OFFICE

Ms. CHAPLAIN. Chairman Udall, Senator Fischer, and members of the subcommittee: Thank you for inviting me here today. I'd like to make a couple brief points about MDA's acquisition progress.

In addition to the successful test events just mentioned, MDA has reduced acquisition risk in some key programs, such as the SM-3 2A interceptor, where MDA postponed the start of product development until it addressed several critical technical challenges. That's a good step because you're going to prevent problems that could cost a lot later on in a program.

MDA has also taken important steps to clarify the baselines it reports to Congress, for example by defining more clearly what costs are presented and what costs are not being presented and why. But more needs to be done to put acquisitions on a sounder footing and to help the Congress prioritize limited resources.

For example, at this time costs for programs still cannot be compared over time. Some programs are still following high-risk strategies. For example, MDA is using new targets for the first time in major operational tests, rather than demonstrating them in a less complex and expensive scenario.

Moreover, as we pointed out in our report, in light of budget constraints we believe MDA should more rigorously analyze alternatives before committing to new investments. We reported that two programs recently proposed for cancellation did not have robust alternatives of analyses.

Finally, I'd just like to recognize Admiral Syring's commitment to improving acquisition and reducing risk for MDA. We look forward to working with him and the agency in the future on doing so.

So thank you. I'm happy to answer any questions.
[The prepared statement of Ms. Chaplain follows:]
Senator UDALL. Thank you, Ms. Chaplain.
Let's do 7-minute rounds. I'll start.

Admiral, I'd like to start with you. We here in the Congress imposed—and I want to be politic—an indiscriminate budget reduction process called sequestration for the fiscal year 2013. We hear it's caused real problems across the Defense Department as well as every other government agency. Unless we act to change it or end it, it will happen again in fiscal year 2014.

You manage a lot of complex acquisition programs. I think your budget's 7 to \$8 billion a year, in that neighborhood. Could you tell us the following information about the impact of sequestration. I've got the three questions I'll pose and then you can have at them: What's been the impact of sequester in this year, fiscal year 2013? What would be the importance of approving the planned reprogramming request and the effect of not doing so relative to sequestration? And what would be the effect on MDA if the sequester were to continue in fiscal year 2014?

Admiral SYRING. Thank you, Mr. Chairman. I'll address three, in this order. There is impact to the Missile Defense Agency and our programs due to sequester. The budget reduction was approximately \$683 million that was flowed down from the fiscal year 2013 appropriation. That was taken in a nondiscriminate way and it is not the best way in my opinion to have levied those budget reductions.

We have proposed through the reprogramming action to the Department, which will come over together, a better way to take those cuts to sustain what I believe to be the agency's highest priorities. The importance of that support is critical.

Finally, on the potential impact of 2014 sequestration and those reductions, I would say, sir, that those would be as cumbersome or maybe more cumbersome given the cuts in 2013 coupled with the cuts in 2014.

Senator UDALL. Thank you for that illumination. I know all of you in your statements have further elaborated on this. The committee would welcome all the details, all the numbers, because this is something that's very important facing us.

General Formica, Secretary of Defense Hagel, Admiral Winnefeld, and General Jacoby have all said recently that the current ground-based midcourse defense system defends all of the United States, including the east coast, against missile threats from both North Korea and Iran. In your capacity as commander within Strategic Command, you represent the warfighter perspective on our missile defense capabilities and requirements. Do you have confidence in our current GMD system to defend all of the United States, including the east coast, against current and near-term ballistic missile threats from both North Korea and Iran?

General FORMICA. Yes, Mr. Chairman. Thank you for the question. We do have confidence in the ability of the ballistic missile defense system to defend the United States against a limited attack from both North Korea and Iran today and in the near future. I'm confident in the systems that have been provided to us and I'm confident in the ability and training of the soldiers, sailors, airmen,

and marines that operate, and civilians, that operate those systems.

Senator UDALL. Let me turn to Secretary Creedon with a question tied to the question I just posed to the General. Some have suggested there may be a gap in our homeland defense coverage, particularly the east coast, against a possible future Iranian ICBM threat if we do not move now to build a missile defense site on the east coast. This view seems to completely overlook the fact that we do already have a missile defense system in place that protects all the United States, including the east coast, against a potential Iranian ICBM, and that Iran does not yet have an ICBM or nuclear weapons.

It also seems to overlook the fact that we're planning to increase our missile defense interceptor inventory by nearly 50 percent in the next few years and that we're making numerous and significant improvements to our homeland defense system that will provide even better protection against a future Iranian ICBM threat.

Do I have the basic facts right, and what would you say in response to the suggestion of an imminent gap against possible future Iranian ICBMs and the need now—the need, I should say, to decide now to deploy an east coast site to fill that gap?

Ms. CREEDON. Yes, sir, you do in fact have that string of facts accurate. The east coast is well protected as a result of—well, it was protected before the additional 14, and this additional 14 provides additional protection both for anything from North Korea as well as anything from Iran should that threat develop. And again, you want to stay ahead of the threat.

There are many options that would be available to us depending on the rapidity with which a threat in your hypothetical from Iran would emerge, not the least of which is, frankly, the ability to look at additional interceptors at Fort Greely, which could also provide some additional threats.

One of the longer-term issues, though, is what are the numbers and what are the capabilities. That's very much in the realm of the unknown and very much out in the future. So right now, just to be clear, the Department is in fact carrying through with the direction from the fiscal year 2013 statute. The Missile Defense Agency is currently in the process of developing criteria to identify a candidate list of sites. From that candidate list of sites, there will be a narrowing down to three, maybe more, but at least three, which is what the direction was under the statute. And then EISs will be completed for all of those, and this will allow us, should there be a decision at some point that we do need an east coast missile defense site, this will allow an acceleration of the time that we would need one.

But there are other options and we are well protected with the existing site.

Senator UDALL. Admiral, is there anything you'd want to add about our ongoing and planned improvements to our missile defense capability that would enhance our defenses against a threat that Iran, thankfully, does not yet have?

Admiral SYRING. No, sir. I believe that the first step in the strategy, as Ms. Creedon articulated, is on track and is the best use of resources today to match the threat that we see, to keep ahead of

the threat that we see from North Korea, with the second step being what do we need to do to keep ahead of the threat from Iran, and those analyses and studies are ongoing this year to coincide with the completion of the interceptor siting studies that we're doing this year.

Senator UDALL. Let me fit one short question, I think. This again to you, Admiral: Turning to your authorities for classification for missile defense information in the MDA, with respect to Russia, have you declassified any missile defense information and have you been asked to declassify any missile defense information for Russia?

Admiral SYRING. I have not declassified any information to give to Russia and I have not been asked to declassify any information to give to Russia.

Senator UDALL. Thank you for clarifying the record.

Let me recognize Senator Fischer for seven minutes.

Senator FISCHER. Thank you, Mr. Chairman.

Senator Lee had asked me if I would defer my question time to him and I would do so.

Senator UDALL. I'm happy to recognize my cousin from the great State of Utah.

Senator LEE. Thank you very much. As one of four or five Senators born in Arizona, I appreciate that.

Thank you, Senator Fischer, for willing to accommodate me. I'll be shuttling back and forth between here and Judiciary Committee and I appreciate your patience with me.

Thanks to all of you for joining us today. Admiral Syring, I especially appreciated your willingness to visit with me the other day on some of these issues.

The recent aggressive behavior of North Korea and the continued belligerence of Iran's pursuit of a nuclear weapons program tend to show the need for an effective and robust missile defense system is as great as it ever has been before. In light of our country's fiscal situation, we have to ensure that all the missile defense programs are both cost effective and likely to be able to achieve their objectives.

We must also base these decisions, any decision pertaining to U.S. missile defense, solely, exclusively, on the need of the United States to defend the Nation against ballistic missile attacks. It's no secret that the Russian government continues to demand concessions and assurances on our missile defense programs.

Admiral Syring, I was a little alarmed yesterday to hear you suggest that this administration had perhaps discussed or considered declassifying information on our missile defense program in order to ease concerns of the Russian government.

It's also been reported in recent weeks that Under Secretary of Defense for Policy James Miller held consultations with Russian Deputy Defense Minister Anatoly Antonov in Brussels concerning U.S. missile defense. Russian media reported that National Security Adviser Tom Donilon had delivered a message from President Obama to President Putin in April that included proposals on missile defense. This follows reports in March that Russian Defense Minister Sergei Shoigu asked Secretary Hagel for regular talks on missile defense with the United States.

On this topic, I asked Secretary Hagel in the Department of Defense posture hearing just a few weeks ago if these talks with the Russian Government would be taking place and who would be involved. I'm still waiting for a response from Secretary Hagel on that important question.

But why don't we start with you, Admiral Syring. Following up on Senator Udall's question a minute ago, I'd like to discuss what it was that you did say yesterday in the House Armed Services Strategic Forces Subcommittee regarding the declassification of missile defense data. Specifically, what's the nature of the data that is being considered at least for possible declassification, and what can you tell me about the purposes for which this might be up for consideration for declassification?

Admiral SYRING. Yes, sir. The questions that I get asked as the classification authority across the stakeholder spectrum of the BMDS people that care about and work with the ballistic missile defense system and the Missile Defense Agency in particular come to me every day in terms of classification authority. My staff and the agency and eventually to me are asked consistently is a piece of information classified or not, and we rule on that.

I have been asked many, many times since I've been the Director to rule on a piece of information in a briefing or a slide. I have been asked by OSD Policy on one occasion to rule on a piece of information, missile parameter information, of which I said the information's classified and it will remain classified.

I will turn over to Secretary Creedon for further discussion on the policy issues and discussions that Dr. Miller has had. I want to just finish by saying I did talk to Dr. Miller last night, sir, and he offered to come over and talk to any Senator or any committee member on his specific policy discussions in this area and he just wanted me to tell you that directly, sir.

Senator LEE. Okay, okay. We'll turn to Secretary Creedon in a minute. Just so I understand you, if I'm understanding you correctly you seem to be telling me that we do have a significant national security interest in maintaining the classified status of this data?

Admiral SYRING. Yes, sir, absolutely, and I'm not anxious and I will not cede the advantage of the United States to anybody.

Senator LEE. Okay, thank you.

Secretary Creedon, do you want to follow up on that? Anything to add to that?

Ms. CREEDON. Yes, sir. I just wanted to reemphasize that we have no ability to share any classified information with Russia, nor any intent to share any classified information with Russia. But as Admiral Syring said, in the preparations for some of these meetings that you referenced we wanted to be very, very clear and very, very careful about what were the sorts of things that we would begin conversations on missile defense with the Russians, because we wanted to be very clear that we were not getting into any areas that were classified. So we've had multiple discussions about is this classified, is this classified, is this thing classified, to make sure that we're very clear on where we stand.

Senator LEE. Okay. Now, can you confirm that Mr. Donilon in fact delivered a message to President Putin regarding missile defense?

Ms. CREEDON. Mr. Donilon had a range of meetings when he was in Moscow, including with President Putin. What he was talking about was expanding and making sure that we have a good relationship with Russia. One of the issues that obviously we all know has been a burr, frankly, in the relationship is missile defense. So we were looking at ways to reinvigorate some of the discussions with respect to missile defense, because we really haven't had anything of substance in about a year and a half, because it is in the way of talking about other things as well—trade, all sorts of things in the broader relationship.

Senator LEE. So I understand you perhaps wanted to reinitiate some sort of dialogue. Can you tell me anything about the substance of any such communications?

Ms. CREEDON. Well, my understanding, because I wasn't there, but my understanding of that, as well as the subsequent meeting with Under Secretary of Defense for Policy with Mr. Antonov, the Deputy Secretary or Minister of Defense, was that a lot of this really was both explaining the decisions that we had made with respect to the hedge, the implementation of the additional 14 GBIs, as well as the decisions with respect to the European Phased Adaptive Approach, and then also put on the table some things that had been put on the table before, frankly, that could ultimately lead to discussions with respect to both transparency and cooperation with the Russians on missile defense.

But we were also very clear—and I just really want to reemphasize this—that we are not, will not, cannot, agree to anything that restricts either the performance or the geographic locations of our systems.

Senator LEE. Or that would involve handing over classified information?

Ms. CREEDON. Or that would involve handing over classified information.

Senator LEE. Information that Admiral Syring has no intent, desire, willingness to declassify.

Ms. CREEDON. As I said, we have no mechanism to provide them classified information in any event.

Senator LEE. Okay. Thank you.

I see my time has expired. I thank the chairman and thank you, Senator Fischer.

Senator UDALL. Thank you, Senator Lee.

Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman.

This would be for any of you. From a missile defense perspective, what is your greatest concern with North Korea at this time? [Pause.]

You go first.

General FORMICA. Senator, I pressed the button, so I'll speak first.

Thank you for asking the question. You know we're still at the middle of the period of provocation with the North Koreans.

Senator DONNELLY. Yes, we are.

General FORMICA. We're concerned about what North Korea will do. We're obviously concerned about the degree of predictability that the leader from North Korea has demonstrated or lack of predictability. So it's important to us that we maintain a posture so that we can defend the United States of America both at home and abroad against the threats that North Korea would pose.

Senator DONNELLY. In terms of engagement if a missile is sent by North Korea, obviously we have protective systems in Guam in place and others in place. Do we feel confident that all of our friends and allies will be protected as well by the missile defense shield that we've put in place?

General FORMICA. Senator, we're confident that we have the posture in place to defend the United States against the threat and to defend our forces forward deployed and our friends and allies in the region. There is no 100 percent missile shield, so there's no guarantees. But we have an appropriate posture in place for the threat that we face.

Senator DONNELLY. With U.N. sanctions in place, that have been in place on North Korea, do you see that North Korea continues to make gains in their missile systems, improvements in the systems they're developing? And with the sanctions in place, how are those—how are those improvements able to occur? That would be for Secretary Creedon.

Ms. CREEDON. I'll jump into this fray. What do we worry about most? I think from a policy perspective most we worry about just the unknowns and the uncertainty. I think, as you've heard others say, our lack of intelligence with respect to activities, plans, intents for North Korea is just about as poor as it exists for anywhere else in the world. We are very much looking at ways to improve this intelligence, but it's a very, very difficult environment. So that's probably the thing that makes for a significant amount of worry, is we just don't know what they're going to do next. It's just that uncertainty.

Senator DONNELLY. This is something that has just come up in the last day or so, but it has been talked about that Russia may send S-300 missile systems to Syria. What do you know about those systems? How effective are they? Because we are in a process of trying to come up with appropriate decisions regarding Syria and this certainly only complicates things even further.

And Vice Admiral, I would like to thank you also for coming by the other day. We appreciate it very much.

Admiral SYRING. Thank you, sir.

I would recommend, sir, that on that subject that we go to a closed session.

Senator DONNELLY. Okay, very good.

Ms. CREEDON. There's a context for that that really needs to be talked about in a different setting.

Senator DONNELLY. Understood.

With the east coast ballistic missile defense system, can you give us an update on the status of site selection for that, and what are the factors that are being considered in regards to that?

Admiral SYRING. Yes, sir, I'd be happy to take that. The effort has started in terms of defining criteria and evaluating potential sites. There's literally hundreds of sites that are under consider-

ation. Some of the criteria that will be finalized and approved in terms of the final selection criteria will include booster drop zones, proximity to population centers. A big part of it is going to be the operational efficacy of the site and how that plays into where the geographic location is.

But I would say that there is ten or twelve major factors, sir, that will play into that. The process has started. It will go through a weaning process, an approval process, through the summer to come out with a briefing to the leadership and recommendation on what the few sites are for possible inclusion.

Senator DONNELLY. Is there going to be one site or will there be multiple sites that we're choosing?

Admiral SYRING. There'll be a few. I say three today, sir. And then as you know, the EIS after that forces us to look at several sites, not just one. There's got to be other environmental—other sites that are looked at for environmental impact as well.

Senator DONNELLY. Okay. With the Missile Defense Agency, how are things going in developing research relationships with various universities? I know my home State of Purdue is looking to develop a relationship and I was just wondering where we are in that process and how that moves forward.

Admiral SYRING. We're doing very well with our relationships with the universities, and I see that continuing in this budget request, sir. I've actually met with Governor Daniels once already and received a series of briefings for a day at Purdue University, and I would say those discussions and future teaming opportunities continue.

Senator DONNELLY. I would like to close by saying, Vice Admiral and Secretary Creedon, we are very proud that you call Indiana your home State. Thank you very much.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator Donnelly.

Senator Fischer.

Senator FISCHER. Thank you, Mr. Chairman. I would once again like to thank the panel for being here today.

Admiral, I have a few questions for you. General Jacoby has stated that the third missile defense site would provide better weapons access, increased GBI inventory, and additional battle space, in his words, to more optimize our defense against future threats from Iran and North Korea. Could you elaborate on this? Tell me why it's a good thing and what are we talking about when we talk about weapons access and battle space?

Admiral SYRING. Senator, I'll keep it very short and simple, and my colleague to my right may wish to jump in from a warfighter's standpoint. Battle space, obviously capacity is known in terms of more interceptors, is capacity. Battle space means reaction time to me in terms of the amount of time that we have and the proximity that we have of putting an interceptor on flight for intercepting a threat missile.

General FORMICA. Senator, that's exactly the same answer that I would give. Battle space is the increased decision time because you'd have a shorter time of flight for your interceptors from a site further to the east than you would from Fort Greely.

Senator FISCHER. Would you then agree with the General's assessment on that third site, that it would provide better weapons access, increased GBI inventory, and additional battle space?

Admiral SYRING. Yes, ma'am.

General FORMICA. Yes, Senator. Certainly it brings increased capacity and increased capability than we have at Fort Greely. The tradeoff, of course, is going to be the investment in infrastructure facilities, force structure, and manpower.

Senator FISCHER. In last year's defense authorization bill, Congress required the Department to conduct the EIS to evaluate three sites in the United States. Can you tell me what the status of that is and when it will be complete?

Admiral SYRING. Yes, ma'am. The siting studies have started and we will meet the deadline of December 31 of this calendar year with recommendations.

General FORMICA. Senator, if I may just add, the process that MDA is going through is inclusive and that the warfighting community is part of that process, and operational considerations will be factored into their site selection recommendations.

Senator FISCHER. Is part of that process to provide an additional missile defense site?

Admiral SYRING. Part of the process will be the evaluation of a potential site, and then in conjunction with that the development of a contingency plan on what a third site would bring to the defense of the United States.

I would just add, Senator, if I can, that there will be other factors that I look at with the combatant commanders in terms of formulation of my recommendation to them for a requirement for the east coast site or a CONUS site. There'll be other factors that I look at along with the warfighter in terms of other parts of what I call the kill chain that are equally important to interceptors and not just interceptors, in terms of us staying ahead of the threat.

Senator FISCHER. Can you share with us what some of those other factors would be?

Admiral SYRING. Yes, ma'am. So the assessment capability in terms of discrimination and the warfighter being able to do a proper kill assessment once interceptors are shot is critically important today and in the future as we deal with more complex debris scenes with the more complex threat missiles that we envision coming. This sensor capability and discrimination capability cannot be understated in terms of the benefit that that will bring the warfighter, in my mind as the material developer the absolutely needed benefit. But again, that requirement will be set by the combatant commanders, informed by our analysis.

Senator FISCHER. General, did you have anything to add on that?

General FORMICA. No, Senator. I think he covered it very well.

Senator FISCHER. Is there funding in this year's budget for this and for the out years for this third site?

Admiral SYRING. No, ma'am. There's funding that I've taken out of the MDA budget to do the current study work that's ongoing and that will cover within the MDA budget the EIS work that needs to start next year if so directed. But there is no funding for anything beyond that.

Senator FISCHER. If funding were available, how long would it take to build the site?

Admiral SYRING. Ma'am, depending on the assumptions and how fast the EIS goes, five to seven years.

Senator FISCHER. What's the average length of time for an EIS?

Admiral SYRING. The metric I use is 18 to 24 months.

Senator FISCHER. Would such a site benefit from the deployment of an X-band radar on the East Coast?

Admiral SYRING. Yes, ma'am. Back to my point on sensing and assessment and discrimination capability, an X-band radar, frankly, anywhere East would greatly benefit the threat that I and we in the agency see coming, and certainly that would be part of it.

Senator FISCHER. How long do you anticipate that we have to address the threat that you see coming?

Admiral SYRING. I'll just repeat the intelligence assessment. Iran may be able to flight test an ICBM by 2015, and then anything beyond that I would like to keep into a closed session.

Senator FISCHER. Thank you, sir.

Also, the MDA is now focusing on that common kill vehicle, the technology for that; is that correct?

Admiral SYRING. Yes, ma'am. It's a technology program in this year's budget.

Senator FISCHER. That's for GBI?

Admiral SYRING. Yes, ma'am, for the exoatmospheric kill vehicle.

Senator FISCHER. What's your timeline for providing that?

Admiral SYRING. We have started—with this year's budget we will start that concept in terms of what components of the current EKV potentially need to be upgraded now. As you know, it's 1990s technology and certainly there's components in there that, given the opportunity to redesign or replace, we would do now in terms of future procurement of GBIs. And then look for commonality and goodness between that kill vehicle and the Aegis kinetic warhead, which has performed just magnificently in the past few tests.

Senator FISCHER. As we look at these timelines that we've been talking about, does that keep us ahead of the growing threat?

Admiral SYRING. Yes, ma'am.

Senator FISCHER. Thank you, sir.

Senator UDALL. Thank you, Senator Fischer.

Senator KING.

Senator KING. Thank you, Mr. Chairman.

I'm the newest member of this committee, so I'm going to ask some very basic questions. If a missile was fired from North Korea tomorrow to Hawaii, assuming they had the capability to do that, could we knock it down?

General FORMICA. We maintain a posture to defend the continental United States and Hawaii. We have the capabilities in place to do that. But the degree of assurance varies depending on how our posture is actually situated.

Senator KING. Well, the reason I ask that question is that, you know, we hear about tests that don't work, and yet on the other hand I hear we can protect the homeland, and I'm trying to square those two things. Do we have tests of the facilities that are deployed now that indicate there's a high probability? Is it 60, 70, 80, 90, 99 percent? How good is this system?

Admiral SYRING. Let me take that and then maybe, sir, I'll cede some time to Dr. Gilmore. The systems we have today work, and I'll keep it that simple. The older systems, which we call the CE-1 interceptors, have been successfully flight tested three out of three times.

The problem that we've had recently is with the newer interceptor and those failures, both occurring in 2010. That's the flight test that I spoke about in terms of the January fix was flown in a non-intercept flight and then we'll fly later this year in an intercept flight to validate the performance of the new kill vehicle.

But all of those, all of those missiles remain at the ready for the warfighter. So, coupled with the available inventory and the warfighter shot doctrine, we are protected today, sir.

Senator KING. Can you put a percentage on it?

Admiral SYRING. No, sir, not in this forum.

Senator KING. I understand the President's budget includes an increase for the Aegis program. How does Aegis fit into the strategy?

Admiral SYRING. Sir, Aegis is a big part of our regional defense posture today in Europe and over near Japan in terms of ships that are either forward deployed or will be forward deployed in terms of us taking ships to Rota. There's a very methodical European Phased Adaptive Approach that has been in large part based on Aegis capability improvements over the next five years between now and 2018. As you know, we've fielded the first phase already in 2011, and then there'll be incremental improvements to the Aegis fleet and missiles that come between now and 2018, first to Romania and then to Poland.

Senator KING. And Aegis is part of the long-term strategy, I presume?

Admiral SYRING. Absolutely, sir.

Senator KING. By the way, on the question of percentages, you said it would be not in this forum. I would like to get that answer in a forum that's appropriate.

Admiral SYRING. Yes, sir, we will do that.

Senator KING. Thank you.

Madam Secretary, on the east coast site just a couple of questions. You mentioned that there are—I think both you and the Admiral mentioned there are going to be three sites, EISs. When are we likely to get those designations? When will there be an announcement on those three?

Admiral SYRING. It'll be—sir, once we have the approval, approval from the Department, towards the end of the year, to meet the December 31 deadline.

Senator KING. So that won't be until much later?

Admiral SYRING. Yes, sir.

Senator KING. Tell me what would one of those facilities entail if fully built? What does it look like? What is it—how many people are there and what's the magnitude of the installation?

General FORMICA. Sir, probably the best way to answer that question is to describe what we have at Fort Greely, Alaska, which was at the time that it was designated an existing Army facility that as a result of BRAC had been essentially in a reduced operational status. So today you have a missile defense complex that's

got three missile defense fields, essentially with the silos built and the GBIs provided by the Missile Defense Agency. You have the infrastructure on that installation to provide for the housing and work areas for the organization, the unit that is there to provide the operational capability that would actually release the interceptors should a decision be made to do so.

So you have many of the standard things that you'd find on an installation. You have barracks, you have the unit office space. You have—this is outside the missile defense complex. You have the soldiers that not only man the fire direction crews that would release the interceptors, but you have a company that provides security to the missile defense complex.

Then the kinds of support infrastructure that you would have, anything in running a typical garrison, from PXs and commissaries to other garrison facilities.

Senator KING. So based on Fort Greely, can you give me a ball park figure of this total, the total population of this facility, including the support and infrastructure and guards and all of that?

General FORMICA. Well, we maintain—the battalion that's there is about 240, 250 Army National Guard soldiers, and I don't know the exact number of civilians, but I would guess it's at least that many. So I would say somewhere around 4 or 500. I'll get the exact number for you, Senator, and provide it to you for the record. But it's probably about 500 or so total, soldiers and civilians and contractors, that are involved in providing the capability at the missile defense complex and the infrastructure that supports it.

[The information referred to follows:]

[SUBCOMMITTEE INSERT]

Senator KING. One of the issues that I've been concerned about as I've been in these hearings is a growing submarine capability. It seems like everybody wants to have a submarine and a lot of countries do. I take it that this shield that we are constructing and have constructed would be effective against a submarine-launched missile, which could be much closer. How do we deal with a submarine-launched missile that would be a couple of hundred miles offshore? Is that a different—is that a different issue? Again, it gets back to this east coast issue. I can't see how we could get a shield missile, an interceptor, from Colorado or Alaska to protect the east coast against a missile that's launched from within 500 miles of the coast.

Talk to me about submarines?

General FORMICA. Actually, Senator, my assessment is that the ballistic missile defense system that's in place is designed against an ICBM, a limited ICBM threat from North Korea and Iran.

Senator KING. Not submarine-launched missiles?

General FORMICA. Not submarine-launched.

Senator KING. What is our strategy with regard to submarine-launched missiles?

General FORMICA. I'd have to take that for the record. I don't have—we don't have a strategy. NORTHCOM commander has obviously identified that kind of threat as a concern and that is an area that he is concerned about.

[The information referred to follows:]

[SUBCOMMITTEE INSERT]

Senator KING. Madam Secretary?

Ms. CREEDON. I just want to jump in for a minute. I think we probably should get you—this is a very complicated topic, to say the least.

Senator KING. I'm figuring that out.

Ms. CREEDON. And it isn't just ICBMs. It's also cruise missiles. But why don't we make the offer to get you a briefing on some of the issues and complexities associated with a submarine threat off the coast, either coast of the U.S.

Senator KING. Absolutely. Well, I just—I'm just trying to think like the enemy here. If you guys can stop intercontinentals, then I'm going to bring them in in another way. Of course we can have a whole different discussion about one that comes in in a suitcase into New York harbor.

Okay. Well, I think that's it, Mr. Chairman. Thank you.

Senator UDALL. Thank you, Senator King.

Let me turn to the entire panel, and I will recognize myself for the second round here. We've talked about this. As you all know, in December 2010 the ground-based midcourse defense system had a failed flight test, and MDA has been working ever since to fix the problem with the Capability Enhancement 2 kill vehicle, known as the CE-2. On March 15th when the Secretary announced plans to deploy 14 additional GBIs in Alaska, he said that before deploying those 14 additional GBIs we would test and demonstrate the system and have confidence that it will work as intended.

Do you all agree that it's essential that before we deploy these 14 additional GBIs that we need to test the system with the corrected CE-2 kill vehicle in a realistic intercept test and demonstrate that it will work as intended?

Why don't I just go across and ask each one of you to weigh in. If it's a yes or no, that's fine, or if you want to elaborate. Madam Secretary?

Ms. CREEDON. Given the nature of the relationship between the testing and the adequacy of testing, I think this is really one for Dr. Gilmore.

Senator UDALL. Okay. Dr. Gilmore?

Dr. GILMORE. My understanding of the Secretary's statement is that he wanted confidence that the problem that had caused the interceptor failure in December 2010, the root cause of that problem had been identified and we have demonstrated, we will have demonstrated, that it's been fixed. The root cause has been identified. The flight test that was the non-intercept flight test that was done not too long ago demonstrated that some design changes to the kill vehicle certainly have the potential to correct that problem.

The reason I say that—and I choose my words carefully—is that as the operational test fellow I don't—I won't say that we've successfully demonstrated the problem is fixed until we've actually done an intercept test flying under the same conditions that were flown in December 2010. My understanding is that, although it's not in the integrated master test plan that was submitted earlier this year, that we will do that intercept test in all likelihood in early fiscal year 2014.

So at that point, if that intercept test is successful, a repeat of the previous failed intercept, then in my view we would have confidence that the problem has actually been successfully fixed.

Senator UDALL. If others have comments, I'd love to hear them. Let me just remind the witnesses that the question is whether they agree we need to test it. We can talk about other—there are other questions that would arise, but that was really what I was trying to get at.

Ms. CREEDON. Sir, on that point, I would say absolutely. In fact, we stated in the context of the announcement on March 15, and the Secretary has reiterated, that the Department is very much in the fly before you buy construct.

Senator UDALL. Fly before you buy.

Ms. CREEDON. Exactly. We're going to fly before we buy.

Senator UDALL. Okay.

Ms. CREEDON. So we are not going to buy these missiles until we've demonstrated that they are in fact fixed and have had, as Dr. Gilmore said, a successful intercept test.

Senator UDALL. Thank you.

General?

General FORMICA. Mr. Chairman, I would just add from an operator's perspective that we want to retain the confidence in the CE-1s and we want to gain confidence in the CE-2s, so that we can continue to have confidence in the overall GBI fleet and the ballistic missile defense system. To that end, we support the Missile Defense Agency's intercept plan to test the GBI, CE-1, with an intercept later this month, so that we can retain confidence in it, and to test the CE-2s with an intercept so that we can gain confidence in that system.

Senator UDALL. Admiral Syring?

Admiral SYRING. The direct answer, sir, is yes, I agree.

Senator UDALL. Ms. Chaplain?

Ms. CHAPLAIN. Absolutely necessary in our opinion.

Senator UDALL. It's good to have the GAO in the house.

Let me turn to General Formica. At our space hearing in April, you testified that expert participants at a recent missile defense symposium agreed widely on the need for improved offense-defense integration. I believe that's also one of the conclusions of the 2012 global ballistic missile defense assessment that you led.

I gather that means we should not think about our missile defense capabilities only in terms of what our missile defenses can defend against, but also what our offensive military capabilities can provide to both deter and defeat missile threats. Can you explain the importance of offense-defense integration in terms of how we think about missile defense? For example, would offensive capabilities mean we don't rely only on defensive systems, which would reduce our need for defensive interceptors?

General FORMICA. Thank you, Chairman Udall. We believe and would advocate strongly for offense-defense integration for missile defense. We'll never have sufficient capacity in our missile defenses alone to meet all of the threats or potential threats that are out there. So offense-defense integration is important. Attack operations by our doctrine is an integral part of missile defense. While it won't enable us to reduce the missile defense capabilities that we

have, it will augment it and help make up for the capability gap that we have, the overmatch, by not having the capacity to respond to all of the threats that are out there.

I think we saw even just most recently in this recent provocation by the North Koreans that the non-lethal application of offensive capability, in conjunction with missile defense, demonstrates the United States' ability to both deter a threat and assure our allies, and to me validated the importance of both offensive and defensive integration.

Senator UDALL. We're going to follow up more on that, obviously. Let me ask a question of all of you. You know better than most that missile defenses are highly complex and expensive, and we want to ensure that they're going to work as they're intended to do so if we ever need to defeat a missile threat. You also know we need to improve them over time.

In your view, what would be the most cost-effective step we should be taking under current fiscal conditions to make sure that our missile defense systems will work as intended and to improve those systems over time? Secretary Creedon, maybe I could start with you.

Ms. CREEDON. I would say initially we need to carry on with the test program to ensure that the improvements to the CE-2 work, that we need to verify that the CE-1 continues to work, and that we begin to look at how we can improve the capabilities of the system for the challenges that we know are coming in the future, so how we address larger raid size, how we address discrimination capabilities. Those would be the categories of work that I think we really need to rely on, because if we can improve some of those then we can also improve the capability of an individual missile, so we can get more with less if we can do some of that work.

Senator UDALL. Dr. Gilmore?

Dr. GILMORE. I'll give you a not surprising answer, given my responsibilities. We need to continue to test. Now, we are never going to with live flight tests obtain a statistically significant set of data on performance, from just live flight tests. But those live flight tests are critical because they provide the data that we can use, that we must use, to rigorously accredit our modeling and simulation capabilities.

So if you have rigorously accredited modeling and simulation capabilities that you can run and they replicate the results that you get in live fire testing, then those modeling and simulation capabilities are what give you the statistically significant set of data on performance of the system.

So if you're asking me what I think is important, it's continue to test, but also allocate the resources needed to develop and put in place the modeling and simulation capability so that it can be rigorously accredited. Then I would also agree with Secretary Creedon regarding discrimination. If we can't discriminate what the real threatening objects are, it doesn't matter how many ground-based interceptors we have; we won't be able to hit what needs to be hit. And as the National Research Council and many others have pointed out, discrimination is a tough problem. I know that Admiral Syring is working very hard on it and agrees with

that view. So I would emphasize working on better ways to discriminate.

Senator UDALL. General Formica?

General FORMICA. Senator, Mr. Chairman, I would reiterate much of what has already been said. We certainly support not only a rigorous test program to retain and regain confidence in the system, but also an exercise program, because in the conduct of tests we have the opportunity as warfighters to validate our concepts of operations and for the users to actually get confident in the systems that have been developed for them and to practice tactics, techniques, and procedures.

To continue to improve the capabilities of the GBIs and to improve and increase our interceptor capacity, as was already said, we would invest, want to invest in sensor capability to get after early tracking and improved discrimination, and to continue the investment in the command and control structures that knit that architecture together, so that we can take better advantage of the various sensors that are already out there and use them for missile defense capability.

Senator UDALL. Admiral Syring?

Admiral SYRING. Mr. Chairman, I'll just summarize three areas that I see. One, our steadfast commitment to the test program. I come from a test background. Since I've been the Director, in calendar year 2013 we'll have conducted three GBI flight tests: a control test, vehicle flight test in January, with two intercept tests this year. I have in the budget another intercept test next year, in fiscal year 2014. I think the drumbeat specifically on ground-based intercept testing is vitally important and I intend to continue that, in addition to testing THAAD and Aegis systems regularly, as we do.

Second, to execute the new strategy, because the new strategy is critical to the capacity for the warfighter. Underpinning that is the successful execution of the test program.

So those two are at the top, and then also equally important would be sensors and discrimination. When I say sensors and discrimination, sir, I mean not just radars; I mean radar and IR and lasers and the important work that we're doing in directed energy at the technology level and the importance of that to keep ahead of the threat. I see that as vitally important.

All three together are my focus as the Director.

Senator UDALL. Ms. Chaplain?

Ms. CHAPLAIN. From a "work as intended" perspective, we would agree with everything that's been said. The modeling and simulation issue in particular doesn't get enough attention that it deserves. The progress there has not been as good as we would like it, and MDA is renewing its efforts into restructuring or redoing that program and we're hopeful that will work out better.

But I would add in terms of that perspective the need to really fly before you buy. Really, you follow approaches that aren't really overlapping production and testing, because that's been at the root of a lot of problems that we see today.

From a cost-effective perspective, I would emphasize two sides: before you buy, really analyzing all the alternatives before you and what is the most cost-effective way to pursue a capability; and then on the back end, the reporting about costs so that Congress can

prioritize continually. The reporting on costs right now is not where it needs to be. It's not complete. You can't compare from year to year, and that's very important just from a cost-effective perspective.

Senator UDALL. Thank you.

Thanks for the committee's indulgence. I took a few more minutes, but this was I think a question worth hearing.

Senator FISCHER.

Senator FISCHER. Thank you, Mr. Chairman.

Admiral, if we could just follow up with one last question on that common kill vehicle. Are you thinking of placing more than one kill vehicle atop the GBI?

Admiral SYRING. Ma'am, that would be down the road once we have flushed out the potential for scaling the technologies that we're going to work on as part of the advanced technology effort this year. But certainly it would be a consideration down the road.

Senator FISCHER. Thank you.

Madam Secretary, moving on to precision tracking space system. Why did the Department of Defense terminate that system?

Ms. CREEDON. I have to say this was a very difficult decision for a number of reasons, not the least of which is the issue of dealing with larger raid sizes. Part of the problem was there is a recognition that we need something. At the end of the day, the Department concluded that this particular something was probably not the right thing, that it was probably too high risk and it was probably not quite the right approach.

So, given where we were in the program, the decision was made to terminate that program. Again, part of the work that needs to be done over the course of the next couple years is really to look at what a sensor architecture looks like, both ground and space-based sensors, and really come to grips with what is the right architecture for that. So it was a very difficult decision because we know we need something along those lines, but PTSS probably wasn't the right thing.

Senator FISCHER. But it was put in place for a reason, correct? To identify those decoys. So what are we looking at to be able to accomplish that mission now?

Ms. CREEDON. Well, that's actually one of the things that has to go over the course of the next year or so, is really look at what does a reasonable sensor architecture look like. So part of the issue is having some more radars on the ground. We'll continue to look at the space-based. But frankly, I think that one of the things the GAO has recently raised in some of its reports is this whole idea of doing sufficient analysis of alternatives. This is probably one of those areas where we could have benefited from a little bit more on the analysis of alternative work.

Senator FISCHER. Do we need to have a space-based sensor system out there?

Ms. CREEDON. My understanding is yes, we do, and I will turn it over to Admiral Syring to add some more. But based on some of his recent tests, I think the answer is yes.

Senator FISCHER. Admiral?

Admiral SYRING. Yes, ma'am, absolutely. I've been clear that we need that capability. We need to have that capability in space, as

I see the threat in terms of the required discrimination capability for the future. It doesn't have to be an MDA-developed system and I think that you'll see us explore those alternatives and those partnerships with other organizations, like the Air Force Space Command.

Senator FISCHER. So your recommendation is we don't just rely on a ground-based? We also need the space-based, correct?

Admiral SYRING. Ma'am, we need ground-based for radar and we need IR capability above the clouds, yes, ma'am.

Senator FISCHER. Thank you.

Also, Admiral, now that we're seeing the termination of the 2B program, do you know what the plans are for the future SM-3 missile deployment?

Admiral SYRING. Yes, ma'am—

Senator FISCHER. After 2018?

Admiral SYRING. Ma'am, as you know, the 2A missile will be fielded in 2018. I think what I view will happen as part of the common kill vehicle program is us looking at technologies across the kill vehicle for Aegis, the SM-3, and the kill vehicle for the GBI, in addition to other improvements that could be made in, for example, propulsion stacks or attitude control systems, in terms of proving that we can and we have in the past upgraded the Standard Missile 3 from the 1A to the 1B, and I would imagine that as the threat continues to evolve that we'll look at upgrades to the 2A as required.

Senator FISCHER. Do you think it's possible for the Standard Missile to play a role in homeland defense, then?

Admiral SYRING. Ma'am, as you saw with the—and I'll let General Formica jump in here—I'm bordering on classification, so I need to be very careful. Maybe that would be a subject in a closed forum in terms of what it can and can't do.

Senator FISCHER. Thank you. Thank you very much.

Thank you, Mr. Chair.

Senator UDALL. Thank you, Senator Fischer. It sounds like we will arrange for a classified briefing, I think, per Senator King's interest.

Senator King, you're recognized.

Senator KING. I just want to follow up on a question the chairman asked about sequester. We all know the effects of the sequester in 2013. It's important to realize, however, that the sequester is a ten-year deal. It's in the law, and if nothing happens, which seems to be the case around here, it will continue.

A year ago, everybody said it was impossible, it would never be allowed to come into effect, and now here we are. So I don't think we can discount the likelihood that it won't continue.

My question is very clear. General, I'll start with you. Would a continuation of the sequester for 1, 2, 3, or 4 more years compromise, significantly compromise, your ability through this program to defend the Homeland?

General FORMICA. Senator, obviously we're all concerned about the impacts of sequestration on the ability to provide capabilities. My biggest concern at this point is the impact it will have on future training and readiness as we balance training and readiness against modernization. So, left unchecked and without the appro-

priate prioritization, then it will have an effect on our ability to provide missile defense.

As I testified to this committee a couple of weeks ago, the other impact, both more immediate and into next year and beyond, I'm also concerned at the impact that sequestration is having on our professional civilian workforce. The threat of a furlough and the impact that a furlough might have not only on them, personal hardships that they would endure, but on our ability to do the mission; the hiring freeze and the challenges that that poses, and the other impact on civilian professional development.

So I am also concerned about that impact of sequestration as well.

Senator KING. I presume there would also be an effect—we were talking about testing and development. I presume there would be an effect across the board. Admiral?

Admiral SYRING. I would echo the General's comments, sir. As I said earlier in the hearing, the cut that I took in 2013 had impact and the cut if the law is not changed in 2014 will have equal or more impact as well. I see the demand for missile defense from the combatant commanders as increasing in terms of capacity required and I worry about us being able to meet that demand signal, given continued budget reductions.

Senator KING. Well, one of the concerns that's been raised in other hearings of this committee is that there's a lag effect, that the negative effects will take place in the next two or three years, but it would be years later, would still be an effect, because of loss of talent, for example, and loss of or slowing down of development, R&D, and those kinds of things.

General FORMICA. Yes, Senator. Just as an example, for this year most of the soldiers, sailors, airmen, and Marines that are manning the missile defense systems are trained and on station. As we look through the impact of sequestration on our ability to train those forces, that becomes a problem in succeeding years.

So right now, in terms of trained and ready forces in SMDC, for instance, I'm confident that we have them, we have them in place in fiscal year 2013. I'm concerned about the impact on the reduction in training in fiscal year 2014 and beyond.

The other thing I didn't talk about when I talked about training is we're also scaling back on exercises. As we conduct fewer exercises and less robust exercises, not just the test program but the exercise program, then those are the opportunities for us to train our battle staffs and those that would make decisions so that we can execute the missile defense system.

Senator KING. So training and exercises are being curtailed now, is that correct?

General FORMICA. That's correct, Senator.

Senator KING. Thank you, Mr. Chairman.

Senator UDALL. General Formica, let me turn to a topic I raised a little bit earlier, which is the annual military assessment of our global missile defense capabilities that you lead. You look both at homeland defense capabilities and regional missile defense capabilities, as I understand it, in regards to the combat commanders'—I should say, combatant commanders' needs. And then you assess risk in terms of threats and capabilities.

In the most recent assessment, what were the overall risk assessments for homeland defense and for regional defense capabilities? Was one considered higher risk than the other? Then as a follow-on, did the assessment suggest that our combatant commanders have a need for increased regional missile defense capabilities relative to the regional missile threats they face today?

General FORMICA. Mr. Chairman, thank you for the question. Yes, we conduct a global ballistic missile defense assessment annually that informs STRATCOM's process to develop a prioritized capability list that the Missile Defense Agency and others respond to. When we conduct that assessment, last year's for instance, we assessed—and again, the specific assessments for each region would obviously be classified. But the assessment for the homeland, which clearly remains our number one priority, is at a lower risk than the assessment for the regions in terms of their ability to provide for missile defense for their forward-deployed forces there.

The trends generally tend to go back to some of the things I've mentioned previously in my testimony today: capacity of interceptors, the need for adequate sensor coverage so we can take advantage of the sensors that are out there. It reinforced the need for offense-defense integration to reduce the dependence strictly on missile defense, but that comes with an increased requirement for intelligence, surveillance, and reconnaissance. And also to continue to improve our integration of the missile defense capabilities of our allies and coalition partners.

Senator UDALL. I'm tempted to ask you about Iron Dome, but I don't know if that's a question that's appropriate in this setting. But I would acknowledge that, having visited both a battery and the command headquarters in Israel last May, that's a real success story. Those of us who watched this, we understand that it gave the Israeli government flexibility that it wouldn't have had otherwise perhaps, and we might have seen the IDF go into Gaza because they would have had no other alternative.

General FORMICA. Mr. Chairman, I would say it's safe to assume—safe to say that Iron Dome is a very successful missile defense system. Again, there's no shield that completely protects us, but it does provide effective missile defenses and the Israeli Defense Forces have demonstrated that.

Senator UDALL. Dr. Gilmore, let me turn back to you. You're the independent source of oversight of operational test and evaluation programs, as we know. That includes missile defense testing, and you've reviewed and approved the MDA integrated master test plan. Do you believe that test plan is robust, rigorous, and properly structured to provide the data we need to assess the performance of our missile defense systems in an orderly and disciplined fashion?

Then a second question: Do you believe the planned pace of MDA testing is appropriate and sufficient, given the need to learn from previous test results and other real-world constraints?

Dr. GILMORE. My answer to both those questions is yes. I'll elaborate a little bit on the second one.

Senator UDALL. Sure.

Dr. GILMORE. Historically over the last decade, the pace of ground-based missile defense testing, which I think is the subject

of some discussion and controversy, is about 1.3 intercept tests per year. The pace of flight testing earlier in the decade was a little higher. It was about 1.7 intercept tests per year. As Admiral Syring just mentioned in an answer not too long ago, during the course of the next year beginning now we may actually—well, including the test that we did not too long ago—conduct three tests for ground-based missile defense: the non-intercept test, the test of the Capability Enhancement 1 kill vehicle coming up within a month, and then the test of the Capability Enhancement 2 kill vehicle, probably early in fiscal year 2014.

That's an outlier and there are some reasons that that more rapid pace of testing that I've characterized as an outlier is possible. First of all, the non-intercept test did not involve a target. That made the planning for that test simpler to do. The CE-1 test later, within a month, and the CE-2 test at the beginning of fiscal year 2014 will be tests that are flown using the same trajectories and targets that were already planned for and analyzed for what was called FTG, Flight Test Global Missile Defense, 06 and 06A, both of which failed, for different reasons, 2 and 3 years ago.

So because we didn't have the target in the case of the test that was conducted not too long ago and because of the fact that we're basically using the analysis and the plans that were developed previously for the upcoming two intercept tests, that makes it possible—that's a large part of the reason that makes it possible to conduct those three tests and to shorten the amount of time that's needed for planning for the test, executing the test.

It won't shorten much the amount of time that's needed to analyze the data. What we don't want to do in this testing is to cause the period during which the data from a test is analyzed so that we can learn, understand and learn to overlap with the period that's used for planning the next test, because if we do that then we're not going to be able to learn.

Now, I'm not going to sit here and deny that the existing process couldn't be accelerated somewhat. But I would say this: Planning for these tests, and in particular analyzing the data from the tests, is not like building automobiles. And I don't mean that to be pejorative to automobile manufacturers, but automobile manufacturers can double their output by building a new plant and hiring a bunch of new workers. That's not the case when it comes to analyzing these test results. Could additional personnel help somewhat? Yes, they could. But it's the kind of activity that reaches a point of diminishing returns in my experience. For example, you can't half the time it takes to analyze data by hiring twice the number of engineers and analysts.

So again I'll reiterate. My answer to both questions is yes, and I support a deliberate pace that's not any slower than it has to be, but allows the time that's needed to rigorously plan and rigorously analyze the test results. Otherwise we won't be learning and the point of the tests will be lost.

Senator UDALL. Thank you for that. I want to turn to Senator Fischer.

I'm trying to think of something disparaging to say about our British cousins, because I think the uproar out in the hall is because Prince Harry is in the Senate, I should say, not in the house.

He's in the Senate. Initially I thought it was because—and this is a very important hearing—that they were waiting for the results of our hearing. But I think—[Laughter.]

Let me turn to Senator Fischer.

Senator FISCHER. Thank you, Mr. Chair. Yes, I said to you earlier, I think Prince Harry's in the house. But you corrected that. He's in the Senate.

If I could just ask a couple more questions here on a different topic. On Tuesday before this subcommittee, we had the national lab people come and it was a very informative discussion that we had on that. I know in the past, Admiral, that you've worked with I believe it's the Lawrence Livermore Lab. Do you still work with our national labs?

Admiral SYRING. Yes, ma'am, very closely. Lawrence Livermore in particular is with the diode pumped alkali laser system. That is a big effort of ours and theirs for the future. So yes, ma'am.

Senator FISCHER. Are you worried about what's going to happen when we see funding cut and the concerns that the labs now have with their funding and not being able to do testing, how that will affect your program as well?

Admiral SYRING. Yes, ma'am, I am. And I watched that very closely as to took the sequestration cuts.

Senator FISCHER. Madam Secretary, do you have anything to add on that point?

Ms. CREEDON. Other than this really is a significant problem. The labs, particularly the three labs that you had here before, truly are crown jewels for this country, and they do a wide variety of things. I know that they really are mostly billed as weapons labs, but each of them does much, much, much more than nuclear weapons. In many respects, a lot of what DOD has across the board from its various weapons systems and capabilities, many of that—many of those capabilities can find their way back in some form or fashion to the labs.

They also are very much involved in the whole nonproliferation effort that the Department has, that's obviously not related to this hearing, but is under my office. They do a tremendous amount of work in detection technologies. They support our intelligence-gathering function and a wide variety of things. So they have a very wide and very important slate of activities. I do worry that we make sure we pay attention to all of that and keep them healthy.

Senator FISCHER. Thank you very much.

I would like to thank all of the panel for being here today. I appreciate your views and your input on this very important subject. Thank you, Mr. Chair.

Senator UDALL. Thank you, Senator Fischer.

I thought I'd ask one last question of Ms. Chaplain and then we'll bring the hearing to a close. What I wanted to ask is: Of course, the GAO has provided numerous suggestions over the years for improving missile defense acquisitions. You've had some additional recommendations this year. There seems to be a tension between the sense of urgency and demand for missile defense capabilities, particularly to address combatant commander needs for existing regional missile threats, which I referenced earlier, and the acquisition practices you recommend. Given that tension, can you

tell us what acquisition improvements you believe are achievable in the near-term to meet the needs of our warfighters, but also ensure that the systems we provide work well and are affordable? Easy question, I know.

Ms. CHAPLAIN. I agree that there is tension, because there's a lot of schedule pressure on MDA to deliver systems within presidential set time frames. There's also—there are concerns about the industrial base and the need to keep it stabilized and productive over time.

We, on the other hand, do recommend strategies that are knowledge-based. We talk about concurrency, being more sequential in terms of the development process. But we are not recommending like 100 percent absolutely conservative strategies, given the mission that missile defense has. But we do believe the overlap in some activities, like production and testing, has just been way too significant in some cases and caused just way too many problems in terms of retrofitting, that end up ultimately disrupting the industrial base because you're turning them on and off and on and off, and it's just really hard to get people on and off and on and off, and it creates more problems.

For older programs, it's kind of do what you can with what you have in terms of reducing that risk. Where we really like to see attention placed is on the newer programs and structuring them in a way—now that you have an initial capability in place, you have more the ability to follow best practices and more knowledge-based acquisitions.

So where we've seen new programs take higher-risk approaches, they're setting their commitment dates where all the acquisition activities ramp up before they really understand the requirements and how they match their resources, we're really encouraging them to restructure those milestones in a way that will benefit them in the long run. And to its credit, Missile Defense has done that on some key programs in recent years.

So we're hoping, with the focus on recent programs, we can have better execution paths going forward.

Senator UDALL. Thank you for those thoughtful recommendations and insights.

I'm going to bring the hearing to a close. I think I speak for Senator Fischer when I say I had a chance to look at each and every one of your biographies and it makes me really proud and impressed, and I'm in awe of each and every one of your commitment to public service, as well as your educational backgrounds. You give me a lot of comfort that you're on the mission, that you're serving our country, and that you've dedicated yourselves to causes greater than your own self-interest.

So thank you for being here.

General Formica, we wish you all the best. I don't think you're really going to retire, knowing you. I look forward to the next mountain you're going to climb.

With that, we'll have additional questions for the record and we'll ask that you provide prompt responses to those questions. We are in the process of working up our subcommittee mark here soon because we want to get the NDAA under way. So I know you'll do so.

With that, this hearing is adjourned.
[Whereupon, at 4:00 p.m., the subcommittee adjourned.]