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HEARING
ON
NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2014
AND
OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS
BEFORE THE
COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED THIRTEENTH CONGRESS
FIRST SESSION
SUBCOMMITTEE ON STRATEGIC FORCES HEARING
ON
**BUDGET REQUEST FOR MISSILE
DEFENSE PROGRAMS**

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FISCAL YEAR 2014 NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST FOR MISSILE DEFENSE PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Wednesday, May 8, 2013.

The subcommittee met, pursuant to call, at 3:58 p.m., in room 2212, Rayburn House Office Building, Hon. Mike Rogers (chairman of the subcommittee) presiding.

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

Mr. ROGERS. This hearing of the Armed Services Subcommittee on Strategic Forces will come to order. I want to thank the folks who are here to participate and other people in attendance.

I apologize for the delay. We were told votes were going to start at 3, and obviously they didn't and they postponed it until 5 so it is just something we don't have control over.

But in the interest of time, I am going to skip my opening statement and just submit it for the record and recognize the ranking member, Mr. Cooper, for any opening statement he may have.

[The prepared statement of Mr. Rogers can be found in the Appendix on page 27.]

Mr. COOPER. Thank you, Mr. Chairman. I have no opening statement and look forward to hearing from the witnesses.

Mr. ROGERS. Great.

We have a great panel today. We have the Honorable Madelyn Creedon, Assistant Secretary of Defense for Global Strategic Affairs, Office of Secretary of Defense; Vice Admiral James Syring, U.S. Navy, Director, Missile Defense Agency; and the Honorable Michael Gilmore, Director, Operational Test and Evaluation, Office of Secretary of Defense.

And we will start with Ms. Creedon. You are recognized for 5 minutes.

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

Secretary CREEDON. Thank you very much.

Chairman Rogers, Ranking Member Cooper, and members of the subcommittee, thank you very much for the opportunity to testify today in support of the Department's fiscal year 2014 budget request for missile defense. Today I would like to highlight the

progress that we have had on some key policy priorities, particularly the recent decisions to strengthen homeland missile defense.

The U.S. homeland is currently protected against potential limited ICBM [Intercontinental Ballistic Missile] attacks from both North Korea and Iran by the ground-based midcourse defense system, or GMD. As stated in the Ballistic Missile Defense Review, we are committed to maintaining an advantageous position vis-à-vis those 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 network.

To stay ahead of the threat, as we have said that 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. This decision was announced by the Secretary on March 15th, and DOD [Department of Defense] is now in the process of implementing the decision. The decision also recognized the delay to the Standard Missile-3 [Block] IIB program, largely as the result of funding cuts in prior years and the continuing resolution.

As Secretary Hagel announced, DOD will add 14 interceptors to the GMD system for a total of 44 deployed GBIs [Ground-Based Interceptor] by 2017, and deploy a second TPY-2 [Transportable Radar Surveillance] 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.

As you know, we had planned to employ an SM-3 [Standard Missile-3] IIB 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, as I mentioned, due to the cuts. As a result, we decided to shift resources from this program to the GBI program to cover the cost of the additional 14 GBIs and to the technology development line in the Missile Defense Agency to develop new advanced kill vehicles and booster technology.

These decisions will allow us to improve our defenses against missiles from Iran sooner than we otherwise would have while also providing additional protection from the North Korean threat.

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

We have also worked with other regional allies and partners in the Asia-Pacific and the Middle East to improve cooperation and enhanced regional missile defenses. We have deployed a Terminal High-Altitude Area Defense, or THAAD, battery to Guam as a precautionary move to strengthen our defense posture against the growing North Korean regional ballistic missile threat. 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 [Gulf Cooperation Council] partners on regional missile defense cooperation, and of course, we continue to support Israel and its missile defense systems, including the Arrow co-development program.

The President's budget for fiscal year 2014 reflects DOD's goals 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 the 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 Secretary Creedon can be found in the Appendix on page 29.]

Mr. ROGERS. I thank you.

And, Admiral Syring, you are recognized for up to 5 minutes to summarize your opening statement.

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

Admiral SYRING. Thank you, sir.

Good afternoon, Chairman Rogers, Ranking Member Cooper, distinguished members of the subcommittee. I appreciate the opportunity to testify before you 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 guidance to strengthen our homeland defense. First among those steps is returning the redesigned ground-based interceptor to flight testing later this year. The successful controlled flight test of the redesigned GBI earlier this year gives me great confidence 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 over the last 4½ years in an intercept test of the first generation operational Exoatmospheric Kill Vehicle, the first such test since December of 2008. We are increasing the operational fleet of GBIs from 30 to 44 by 2017, and this will involve the relocation of GBIs 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 our homeland defense interceptors. Also, in order to provide more robust coverage for the 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 and funding to operate and sustain command and control management and communications and TPY-2 radar's fielded sites, and we will deliver more interceptors for THAAD and Aegis BMD. MDA [Missile

Defense Agency] will continue to fund the upgrades to phase one of the European Phased Adaptive Approach, and we proceed on schedule and on budget 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 and the very best in the world at what they do. It is an honor to serve with them every day.

I ask that my written statement be accepted into the record, and I look forward to answering the committee's questions. Thank you.

[The prepared statement of Admiral Syring can be found in the Appendix on page 40.]

Mr. ROGERS. Thank you, Admiral.

Mr. Gilmore, you are recognized for up to 5 minutes to summarize your opening statement.

STATEMENT OF HON. J. MICHAEL GILMORE, DIRECTOR, OPERATIONAL TEST AND EVALUATION, OFFICE OF THE SECRETARY OF DEFENSE

Dr. GILMORE. Given my responsibilities, I just simply want to emphasize in my opening statement that we have conducted and we are continuing to conduct tests that incorporate increasing amounts of operational realism and, therefore, complexity. An example of that is so-called FTI, or Flight Test Integrated-01 that was conducted late last year. It involved the coordinated intercepts—near simultaneous intercepts by Aegis, THAAD, and Patriot of ballistic missiles and air-breathing threats.

This was a very important test for a number of reasons, not the least of which because the combatant commands had extensive participation in this test and it was used to develop tactics, techniques, and procedures that are being applied in U.S. Central Command today.

We are going to be conducting later this year the first full-blown operational test—multisystem operational test—FTO-01 [Flight Test Operational-01], that will involve Aegis and the THAAD conducting—or performing layered defense.

And Admiral Syring mentioned that we have conducted a test that is very promising this year with ground-based missile defense, indicates that the problems that caused the previous intercept failure probably have been corrected. In all likelihood we will be doing—that was with the Capability Enhancement II kill vehicle.

In all likelihood, early in fiscal year 2014 there probably will be a decision to conduct an intercept test with the CE-II [Capability Enhancement II] kill vehicle. And we will be also conducting, probably later this month, an intercept test with the Capability Enhancement I kill vehicle, and that is important to do, as well, because the CE-I [Capability Enhancement I] kill vehicles will compose a majority of the fleet of GBIs for some time to come, and we need to continue to test those under realistic conditions, as well.

The first intercept of a true ICBM target remains scheduled for the fourth quarter of fiscal year 2015. That is unchanged from the last three integrated master test plans. And we will be conducting increasingly complex and realistic tests of the ground-based missile

defense system after this year, and including in fiscal year 2015, and after that point with ICBM targets, and we will be conducting salvos and multiple simultaneous engagements in order, again, to incorporate increasing amounts of operational realism in the tests.

And it is only by doing that that we can give the combatant commanders and the National Command Authority the information they need to understand the performance of the system.

And so, in summary I would simply say that I support very strongly the deliberate and rigorous test program that Admiral Syring is executing. It enables learning, and that learning is what is essential from testing. And in fact, I think the value of the tests—and this may sound somewhat counterintuitive—but the value of the tests is most demonstrated by the failures that we have found, you know, the failure modes that we have found by conducting those tests in Aegis and ground-based missile defense over the last couple of years, because those failures would not have been found if we didn't do that testing and relied solely on modeling and simulation.

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

[The prepared statement of Dr. Gilmore can be found in the Appendix on page 64.]

Mr. ROGERS. I thank you. And I also want to, you know, take time and let you know how much I appreciate you all preparing for this hearing and being here. I know it takes a lot of time for you all to get ready for these things and it is appreciated by us.

I will recognize myself first for questions.

Admiral Syring, I was very pleased that the DOD has gone back to the Bush program of preparing to have 44 ground-based mid-course defense interceptors, but I am concerned about the—what I am understanding is the plan for purchasing the additional 14 interceptors—2 per year for 7 years.

Seems to me there would be a more efficient way to purchase those. Can you tell me what your thoughts are about how you might approach that differently?

Admiral SYRING. Yes, sir. I will answer the question with two parts. The first gate that I must pass through is a successful return to intercept flight later this year and—with the CE-II configuration, in terms of we have got to have that success; it underpins the entire strategy that we are now on, and the criticality of demonstrating “fly-before-you-buy” and not restarting delivery and integration of the current GBIs that are under contract is step one.

Step two would be, once we are successful, as part of the next budget submit, to work with the Department and then with our Congress on some ideas to more efficiently buy those in terms of economic order quantity, long lead, potentially multiyear procurement authority based on the stability of what we are able to demonstrate through flight testing this year and next year.

Mr. ROGERS. I know you say you want to wait until after this test and you are forming next year's budget, but can't you go ahead and have some people be comparing those options and see which one, in the meantime, would be most practical and cost-saving so that you are not trying to start that up next year? I would hope you would be doing that—

Admiral SYRING. Yes, sir. We are doing that analysis now.

Mr. ROGERS. Great.

Ms. Creedon, the President has cut the missile defense budget each and every year he has been in office. It isn't possible to merely cast blame on the Budget Control Act, as some of his steepest cuts came prior to that act, which, by the way, nowhere states that funds need to be cut out of our missile defenses. Have any of our combatant commanders reduced their interest in missile defense capabilities to justify these devastating cuts?

Secretary CREEDON. The majority of these cuts and reductions are really associated with programs that have been terminated over the course of time, so many of these programs, such as the airborne laser program, proved to be technically more challenging than initially thought. So the bulk of these reductions really is associated with these sort of high-risk types of programs and have not cut into the actual meat of the program.

In fact, this year, having cut—having cancelled another one of these programs that were fairly high-risk, we have been able to fund an additional 14 GBIs and provide additional protection to the homeland. So yes, the combatant commanders continue to have high interest, but the support that we have been able to provide through the budgets that have been submitted are more than sufficient to both stay ahead of the threat and ensure that the U.S. homeland is adequately protected.

Mr. ROGERS. Well, it just seems inconsistent, when you look at the threat in North Korea and what is happening with Iran, and China's buildup of their regional capability, that we ought to not be spending less; if anything, should be enhancing our spending, particularly given the modernization challenges I have got.

Now, you talked about the radar—I mean, the laser system. Have you all—and by that I mean the Administration—taken the view that directed energy is not an area we should be focused on?

Secretary CREEDON. Not at all. The decision was really with respect to the specific program, the airborne laser program. And in fact, there is a substantial research and development program associated with directed energy concepts currently funded in the missile defense budget.

Mr. ROGERS. I just think that is an area we really need to—and I have talked with Admiral Syring about that—I think we really need to focus a lot more on that.

Also, Ms. Creedon, I am concerned about Secretary Kerry's comments to the Chinese while in that country. He said to the Chinese that if they would help rein in North Korea and their behavior that it could have a *quid pro quo* of withdrawal of some of the U.S. assets in the region.

Hypothetically, if North Korea abandoned its missile and nuclear programs tomorrow would the U.S. withdraw its missile defense assets from Asia—for example, its two radar systems in Japan?

Secretary CREEDON. Obviously hypotheticals are always difficult, but if North Korea were to abandon everything, you know, completely denuclearize in a verifiable fashion, completely walk away from any of its long-range missile systems, it would, of course, have an impact on the U.S., but largely with respect to the U.S. homeland missile defense programs, which is really what is geared—what is what the North Korean threat is driving.

So it is really the U.S.—so the regional concepts will continue to be there as—you know, those are a different aspect. Plus, the regional focus is also largely provided by assets that are mobile and transportable, so as I mentioned in my statement, these are the sorts of assets that we can move to wherever the threat is. So if the threat were in the Asia-Pacific they would be there; if the threat were somewhere else we could move those assets there.

But I would certainly welcome the denuclearization and the “demissilization,” if that is a word, of North Korea.

Mr. ROGERS. Well, and I would, too. I am not holding my breath, but I would, too. But I would remind folks that China is still over there and it is a rough neighborhood, so we need to be mindful of that when we start—you know, when the—first of all, the Secretary can’t make those decisions, you know. If he wants to withdraw anything it is going to take money and he has to get the Congress to approve it, so I would like not to have to read those kind of things in the paper, but I do want to remind everybody that it is not just North Korea in that neighborhood that is a problem.

And with that, I will yield to the ranking member for any questions he may have.

Mr. COOPER. Thank you, Mr. Chairman. I know it is the job of the opposition position party to be critical of the Administration but I think it is also important to stress those areas where we agree as well as the areas of disagreement, and I noted in your opening statement that you submitted for the record that you largely agree with the Administration on their cancellation of the PTSS [Precision Tracking Space System] project and the SM-3 Block IIB missile.

So those are significant cost savings for the MDA budget. Those are things that I know in your statement you said, well, maybe the money should be put back into other programs, but still, it is great to have this source of agreement on Administration policy on the cancellation of those two programs.

I noted in Admiral Syring’s testimony, toward the end on page 20, he said that the impact of sequestration on the program and workforce is significant, and I think that many folks in our military are feeling that in whatever budget they are supervising.

You also go on to say that you plan to work with the Department to submit an above-threshold reprogramming request as part of the Department’s larger request this year. I was wondering if the admiral could give us any idea of what some areas of reprogramming that you might be most interested in at this point.

Admiral SYRING. Sir, thank you for the question. First, there is an impact to the work I do and the workforce of sequestration as those cuts came down, and what we have done as part of our reprogramming request that will be submitted to the Department is offer a better way and better method to take some of those cuts to mitigate and keep my highest-priority issues fully funded and on schedule.

Sir, I will share those details with you once I am allowed to submit them via the comptroller once they are approved, but I can assure you that what I have offered is a better use and better way to spread the cuts and preserve my top priorities for homeland regional and regional defense.

Mr. COOPER. Well, I appreciate the seriousness with which you undertake your assignment, and there is a move afoot among my colleagues on the other side of the aisle to perhaps offer \$250 million extra for ground-based interceptors for procurement and for MILCON [Military Construction], and it seems like the focus would be on the third site. And I was wondering if you really need additional funding or authority in fiscal year 2014 beyond the budget request, and if—would this money be able to be spent in this upcoming fiscal year?

Admiral SYRING. Sir, the first part of that answer is, as you know, I am conducting a very extensive siting study, as directed by the NDAA [National Defense Authorization Act], and that process is ongoing, and as those recommendations are briefed to the Department we will come forward with those recommendations by the end of the year.

With that, I will be developing a contingency plan, which means analysis of the east coast site, and I call it more globally the CONUS [Continental United States] interceptor site, coupled with some studies and direction I have gotten from both General Kehler and General Jacoby to come back to them with a holistic approach to the BMDS [Ballistic Missile Defense System] architecture, given PTSS cancellation, given the IIB cancellation.

So I would like to look at the CONUS interceptor site in that context and that larger kill chain end-to-end and provide recommendations across the board in terms of the benefit of the CONUS interceptor site and the benefit of other parts of our kill chain end-to-end, sir.

Mr. COOPER. Thank you. And I would appreciate, not for this hearing, but if you could supply a classified answer to the question about our capability to provide shoot-look-shoot capability for coverage of the United States that would be very helpful.

Admiral SYRING. Sir.

Mr. COOPER. Mr. Chairman, I yield back the balance of my time.

Mr. ROGERS. I thank the gentleman.

Chair now recognizes the gentleman from South Carolina, Mr. Wilson, for 5 minutes.

Mr. WILSON. Thank you, Mr. Chairman.

And thank you all for being here today, and we all appreciate your service for our country.

Admiral Syring, the United States has had no boost-phase missile defense program since approximately 2009, when the Obama administration terminated the airborne laser, ABL, and kinetic energy interceptor, KEI. I noted in a recent unclassified slide that the Missile Defense Agency had no programs designed to defeat a missile in the boost phase.

Sir, aren't there obvious advantages to engaging a missile in this phase of the flight at the beginning, such as precountermeasure and decoy release?

Admiral SYRING. Sir, the boost-phase capability has been long chronicled on the benefit that it might give. The problem that we have had in terms of fielding boost-phase capability is getting close enough to the threat, and certainly the SM-3 IIB program was going to be a first-shot capability against the threat, but again, sir, the predication of getting a first shot was all based on what veloc-

ity could we achieve with that missile, and technologically it was too challenging and too costly and too long, in terms of the schedule, for us to get there.

Mr. WILSON. And getting to know the location of the threat with the satellite technology we have, with the other technology and the intelligence, hopefully, we have, I would hope that we would—could be pretty precise on where a potential attack could come. Do you feel that way, or—

Admiral SYRING. Sir, we have coverage against a limited ICBM attack against Iran and North Korea, and I will talk more about that as the questions come. But we do have a good capability in terms of detection of launch, and then queuing of the track to the proper systems within the BMDS. It is very important and we do have that overhead and organic sensor coverage today.

Mr. WILSON. Good. Well, I certainly want to reassure the American people we are—have extraordinary monitoring capability. Shouldn't we take a look at what options are possible for boost-phase missile defense?

Admiral SYRING. Sir, as part of the studies that I am doing for the two combatant commanders where I get my requirements for we are looking at what technology is available, boost-phase and even left-of-launch, and I will leave it at that in this forum.

Mr. WILSON. Thank you very much.

And for Dr. Gilmore and Admiral Syring, given the intelligence community's current assessment of the developing threats from North Korea and Iran, does the current ground-based missile defense plan still meet requirements? What changes should be made, if any? Will we see any proposed changes in the hedging strategy?

Admiral SYRING. Sir, was that for me or Ms. Creedon?

Mr. WILSON. Actually, for you and Dr. Gilmore.

Dr. GILMORE. Do you want to go first?

Admiral SYRING. Go ahead, sir.

Mr. WILSON. But I sure appreciate the Secretary is here. Thank you. There is life after serving on Capitol Hill.

Dr. GILMORE. I will let Admiral Syring address the question of what changes might be made—you know, might be necessary to the acquisition program. I try to stay out of recommending changes to acquisition programs; I just provide test information to the people who make those decisions, otherwise they might think that I am trying to grind an axe.

From the standpoint of the test program, as I described in my opening statement, the test program for ground-based missile defense is going to be incorporating increasing operational realism, including multiple simultaneous engagements, salvo engagements, and demonstrating performance against countermeasures. And so, in that regard, I think that the test program is structured to deal with the evolving threat.

People can have debates about when certain kinds of counter-measure might be available to either the North Koreans or the Iranians, assuming that they—you know, the Iranians developed an ICBM. But, you know, my understanding of those threat projections and the uncertainties that they incorporate is that the test program is appropriately paced in that regard, so I think I will just leave it at that.

Mr. WILSON. And, Admiral, would you—

Admiral SYRING. Sir, as far as changes to the strategy, I wouldn't call them changes; I would call them augmentation details that need to be worked in terms of, given the cancellation of PTSS and IIB, which you will hear from me and what I have shared with several members, is our need to focus on discrimination capability. And to that I mean the sensor network, and to that I mean the dual phenomenology of both radar energy and I.R. energy. And in those—in both of those spectrums, sir, we need to focus and have started to focus, in terms of what that brings to the fight in terms of providing the combatant commanders a better use of their existing resources.

Mr. WILSON. Thank you very much.

Mr. ROGERS. Gentleman's time is expired.

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

Mr. GARAMENDI. Thank you, Mr. Chairman.

And some discussion has already taken place concerning the east coast missile site, and the question of whether—first, I guess, to Admiral, if you could tell us the status of the current study that you have under way as a result of last year's NDAA—what is the status of it? What are you studying?

Admiral SYRING. Sir, we looked at a—are looking at a wide range of possible locations for the CONUS interceptor site based on criteria that includes proximity to population areas, booster drop zone areas, DOD-controlled land, and performance, frankly, in terms of what—where is our best location to maximize our opportunity against the threat. Literally hundreds of sites have been considered, and through a ranking and down-select criteria, that process is ongoing through MDA and then the Department and then, you know, eventually results will be announced and further studies will happen at those locations that we neck down to.

But that process is ongoing and very active today.

Mr. GARAMENDI. Could you give us some sense of timeframe as to when the study would narrow it down to two or three different sites and then down to one site?

Admiral SYRING. The rough timeframe that I am working to is towards the end of the summer, maybe as late as September.

Mr. GARAMENDI. That you will have a preferred site at that time?

Admiral SYRING. That I will have a preferred three sites at that time to study even further before the end of the year.

Mr. GARAMENDI. And so by the end of the year you will have selected a site?

Admiral SYRING. I will have recommendations. It won't be my selection. There would be a recommendation to the Department, which will ultimately provide the recommendation to Congress.

Mr. GARAMENDI. Okay. And then, assuming that a site has been selected—or recommended and Congress takes it up—that will actually be next year's NDAA that it would be taken up?

Admiral SYRING. Potentially, sir, yes.

Mr. GARAMENDI. So the construction at that site is probably another 2 or 3 years off?

Admiral SYRING. The timetable that we are working to is once we decide on a site by the end of this calendar year, 18 to 24

months for an environmental impact study on that site and then site construction and subsequent additional GBI procurements if so dictated by the Department and the combatant commander requirement.

Mr. GARAMENDI. Okay. So we are looking at a situation where additional expenditures beyond what is already allocated in the 2013 NDAA and continued studies and site environmental work in the 2014 NDAA would be sufficient to meet your schedule?

Admiral SYRING. The resources that are required to do this study—the siting studies this year and then the environmental impact study have been part and are the 2014 requirement is part of my budget request in the reprogramming, actually, since that was a late requirement. So those funds will be covered, but it is only study at this point.

Mr. GARAMENDI. I promised my friend next to us that I wouldn't get into another brawl with him on an east coast missile defense site so I am just trying to lay out some information that will help us all work through the scheduling of money and whether we tie up a significant amount of money in a—ahead of what it would actually be required—of when it would actually be required.

So I am going to put a direct question to you and hopefully not engage too deeply with my colleague over here. Would an additional \$250 million in the 2014 NDAA be of use to you in the process that you have under way?

Admiral SYRING. Not at this time, sir.

Mr. GARAMENDI. Thank you.

I will yield back my time.

Mr. ROGERS. I thank the gentleman.

The Chair now recognizes the gentleman from Florida, Mr. Nugent, for 5 minutes.

Mr. NUGENT. Thank you, Mr. Chairman.

And I want to thank the panel for being here today.

But to the admiral, I want to thank you. A number of members from this committee, you know, sent you a letter urging that the MDA be—refocus attention on directed energy, particularly as it relates to challenges with our missile—or our adversaries' missiles capabilities. And first I want to thank you for the response, and I am encouraged by your plans to develop a next-generation airborne laser system.

But the directed energy budget is so relatively small, and so I am trying to figure out—you know, the Army and Navy are being very aggressive, I think, on directed energy capabilities to intercept close-in threats on ground forces and ships, but intercepting ballistic missiles obviously is a greater challenge. So I am trying to figure out, do we have adequate resources to allow us to move to that next level and get out of the—from the laboratory stage to actually get to where we could deploy?

Admiral SYRING. Sir, it is a fair question. As you know, we have two efforts ongoing today at Lawrence Livermore and out at MIT [Massachusetts Institute of Technology] Lincoln Labs, and both show great promise.

And we will proceed to their first knowledge point in terms of 10 kilowatts, 20 kilowatts, 30 kilowatts over the course of the next 2 to 3 to 4 years. And, sir, as we have refocused our efforts, those

demonstrations are critically important to prove the technology and our ability to scale up in power.

Equally important is the platform, and we have talked and I have talked to several of the members about a demonstration on a UAV [Unmanned Aerial Vehicle] in several years and the importance of being above the cloud layer to show that infrared and it is, in particular, directed energy is a benefit to the discrimination problem that I face and the combatant commanders face. And to date, the progress has been promising. As part of the studies that I am doing for both combatant commanders we are looking at this, as I have mentioned to a couple of congressmen in private, to understand the allocation of money, because right now we are—because we are spending less than \$50 million a year on this at this point, and I have been asked by several members to come back and give them my recommendation on is that enough, are we focused in the right areas, are we focused too slowly or too quickly?

Mr. NUGENT. And I agree with those members, particularly when you look at the ability—if we could develop a consistent system it is certainly a lot less expensive to do the test at that point than using a kinetic source—you know, another missile to try to shoot down. So what do we need to do to help resource you, or is \$50 million enough? I mean, it doesn't sound like it would be, but—

Admiral SYRING. Sir, we are still in the scale-up demonstration phase at this point to prove the two promising technologies that we are working on—the DPAL [Diode Pumped Alkali Laser] system out at Livermore and then the fiber combined laser at MIT. And as I gain knowledge—and we are only going to pass through the first knowledge point here in the next 18 to 24 months—

Mr. NUGENT. That was kind of my question: When do you expect to see some kind of actual testing?

Admiral SYRING. The first knowledge point of that system will be in fiscal year 2015 to demonstrate it at a 30-kilowatt level. And then, sir, we can make decisions based on where we are with the physics and the technology, and then more importantly, the packaging and the scaling of that technology to go on a platform, which is equally important.

Mr. NUGENT. And I think the question I heard one of my colleagues ask—and this is a question I think I tried to allude to earlier is, with additional funds could you move that date up, because obviously if you could move that date closer to where we are today it becomes more cost-effective once you do that, obviously, for continuing testing, and would that help? I mean, or is it—money isn't the issue, it is technology or time, I am not sure which?

Admiral SYRING. Certainly more people on each concept, in terms of the number that we have today based on the budget reductions that have happened over the last couple years, need to be looked at and will be assessed by myself over the next few months.

Mr. NUGENT. So is the answer more money could hire more researchers to get to a usable platform sooner?

Admiral SYRING. Sir, I need—

Mr. NUGENT. I know it is a tough question—

Admiral SYRING. I need to study that and get back to you.

Mr. NUGENT. If you would, please. Thank you.

And I yield back.

Mr. ROGERS. Gentleman's time is expired.

The Chair now recognizes the gentlelady from California, Ms. Sanchez, for 5 minutes.

Ms. SANCHEZ. Thank you, Mr. Chair.

Okay, gentlemen. I want to talk about that National Research Council's report—the 2012 report—comparing boost-phase ballistic missile defense to other approaches identified. It identified six fundamental principles or precepts of a cost-effective ballistic missile defense.

I want to quote this: "It found the current GMD system deficient with respect to all of these principles." Because of these problems, the NRC [National Research Council] recommended an entirely new ground-based missile defense system with new interceptors, radars, and concept of operations.

So why is the Administration recommending the purchase of 14 more ground-based interceptors when the NRC found the current system so lacking?

Admiral SYRING. Ma'am, is that for me?

Ms. SANCHEZ. It is for whoever wants to answer that.

Admiral SYRING. Ma'am, the current system we have has had a history—the last two intercepts have been failures—FTG [Flight Test Ground-Based Interceptor]—06 and FTG—06A. One was a production quality issue and one was more of a design issue.

We successfully demonstrated the design correction for the last intercept test in a controlled flight in January. It was not an intercept flight but we put it through very aggressive maneuvers in space to prove that the correction in isolation mechanism of the navigation unit had, indeed, been isolated to perform as designed in an intercept test.

And based on the analysis of that data that we got back, if we had flown at target it would have been an intercept. So that gives me great confidence that the correction is in place and will work.

That said, I have still got to demonstrate an intercept test later this year, and as I said previously, it is imperative that before we start buying more GBIs in fiscal year 2016 that I come forward with that success and prove that, yes, the new system is, indeed, corrected.

As you know, the—there is the older version of interceptors that are in the ground today that have successfully flown three of three times, and that those continue to be at the forefront of the combatant commanders' stable of missiles to—of interceptors to use in case of conflict.

That said, we are proceeding with fly-before-you-buy. I am not making any production decisions or spending any money on new GBIs until we have proven that. I have stopped taking delivery of GBIs; I have stopped taking delivery of EKV's [Exoatmospheric Kill Vehicle] that are either on the old contract or the new contract until we have corrected this problem. It underlines everything we are doing.

Ms. SANCHEZ. That is what I wanted to hear.

So saying it a different way, because we had Secretary Hagel make a statement that complete confidence in the GBI interceptors was a prerequisite to deployment of these 14 additional GBI interceptors, specifically, which flight or intercept tests must be success-

fully conducted and what capabilities must be demonstrated in order to meet Secretary Hagel's stated requirement?

Admiral SYRING. Yes, ma'am. That intercept test today is called the CE-II—Capability Enhancement II—intercept test that will be of the vintage of the GBIs that we will procure starting in fiscal year 2016.

Ms. SANCHEZ. So the new GBIs?

Admiral SYRING. The new GBI correction will be intercept-tested in the first quarter of fiscal year 2014—later this calendar year.

Ms. SANCHEZ. And that is the only test that you think needs to be passed in order for us to feel confident enough to buy more GBIs?

Admiral SYRING. There will be an additional intercept test that is in the budget today for later in fiscal year 2014, and my guidance in terms of the development of the test plan for Dr. Gilmore has been at least one intercept test per year.

Ms. SANCHEZ. Okay, so—

Admiral SYRING. And I can make some very informed decisions after this intercept test on restarting integration and then informing the new production buy.

Ms. SANCHEZ. So the CE-II capability—and you had some other names associated with that test—for the new GBIs—you think that if you do that one test that you can go ahead and start purchasing the new GBIs? Or, then you said you also have another test in fiscal year 2014 that would give you more information. So are you telling me you want to buy those 14 after this test in the fall or are you telling me you are going to wait until fiscal year 2014 test—the second one—to see if both of those are good?

Admiral SYRING. Ma'am, the problem that we had with the CE-II test back in December of 2010 was very isolated to the navigation unit and isolated in a sense that we understood through the data and through ground testing and everything else post-test that it was a very isolated component that is very explainable and repeatable in the ground testing that we did. We proved, through both of those—especially the December 2010 flight test—success at every stage of flight of the new interceptor.

Ms. SANCHEZ. Thank you, Mr. Chairman. I just wanted to get that for the record because I heard two under Hagel's—the question I said about Hagel, and now I hear one from the other side. So I think it needs further discussion outside of this hearing. Thank you.

Mr. ROGERS. I thank the gentlelady.

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

Mr. BROOKS. Thank you, Mr. Chairman.

Admiral Syring, do you possess any delegated authority by the Secretary of Defense over foreign disclosures of classified United States missile defense technology?

Admiral SYRING. I am the classification authority for the ballistic missile defense system.

Mr. BROOKS. And have you been asked, since assuming your position, to provide insight about disclosure to Russia of United States missile defense technology?

Admiral SYRING. I have not been asked to declassify anything in terms of disclosing information to Russia.

Mr. BROOKS. Have you been asked for your insight?

Admiral SYRING. I have not been asked for my insight other than questions that have been asked and are asked routinely on what is classified and what is not.

Mr. BROOKS. So as best you can recall, you have had no discussions with anyone, for example, in the Office of the Secretary of Defense, about declassification of any of our missile defense technology with respect to Russia?

Admiral SYRING. I have had discussions with the Secretary of Defense policy group on what information is classified and what is not classified, and that guidance—that information, in terms of what I have provided, has been adhered to 100 percent.

Mr. BROOKS. I am not sure that you are answering the question, or maybe I am not phrasing the question properly. Let me give it another crack.

Have you had any discussions not about what information is classified or classified, but instead, have you had any discussions about whether any classified information should become declassified with respect to our missile defense technology in Russia?

Admiral SYRING. Yes, sir. There has been a discussion on the capability of the current missiles we are building and the velocity at burnout.

Mr. BROOKS. Who were those discussions with?

Admiral SYRING. Sir, they have been discussions within OSD policy up to Dr. Miller.

Mr. BROOKS. Another question for you, Admiral Syring. If you were given complete authority to reprogram funding as you saw best in order to enhance America's national security, where would you focus your resources and overall agency program attention?

Admiral SYRING. My number one priority, sir, would be to focus on the discrimination capability of our system.

Mr. BROOKS. Would there be any other reprogramming of funds from one aspect of what you do to any other?

Admiral SYRING. I am currently assessing that and it may be possible.

Mr. BROOKS. The MDA objective simulation framework, or OSF, contract was awarded competitively in fiscal year 2012 and was designed to provide flexible and robust solutions to assess the United States' ability to fully protect the homeland as well as provide the damage denial role vital to the success of our military commanders' missions abroad. However, the program has been subjected to a continuing series of budget reductions, restructuring, and program slippages which have undercut the overall OSF program objectives.

Now, I have been informed that there have been an additional cut of \$2.5 million that is requiring an immediate layoff of key technical personnel whose talents are vital to the continued success of OSF. Would you please provide me a thorough review of the history and future funding and plans of the OSF contract at the earliest opportunity? And that can be in writing if you are not able to give it in the little bit of time that we have left.

Admiral SYRING. Yes, sir.

Mr. BROOKS. Thank you.

Mr. Chairman, I yield back.

Mr. ROGERS. Thank the gentleman.

Chair now recognizes Mr. Langevin, for 5 minutes.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to thank the panel for your testimony today. Some of my questions have been addressed.

I wanted to circle back, though, and Mr. Nugent has talked about—and questioned about directed energy, and, Admiral, I just had to give you a further opportunity to talk on this topic. How does the fiscal year 2014 budget request preserve the investments made in directed energy programs so far and what role overall does MDA see for DE [Directed Energy] capabilities in the future? And I am very interested in specifics and, you know, how we integrate some of these things into our missile defense capabilities in the long run.

Admiral SYRING. Yes, sir. The funding preserves us on a path to the scheduled demonstration in fiscal year 2015 of the two systems that I spoke about east and west, at MIT and Lawrence Livermore.

More importantly, what I see the value of directed energy to be is to help with the very complex debris scenes and counter-measures that we see coming in the future, in terms of having that capability for discrimination in the kill chain. And I view that as a very—one of my highest priorities in terms of developing that phenomenology, and the systems that we are demonstrating east and west are critical to the confidence of our ability to one, prove the technology, and then two, to package and put on a platform and demonstration first and then consider even smaller payloads in space, potentially.

Mr. LANGEVIN. Thank you. Well, I think that these investments are important and I hope we are doing our best to preserve them and, you know, continue to see them aggressively develop and hope we integrate it as soon as possible.

Let me turn to the TPY-2 radar issue. In fiscal year 2013 NDAA funding for an additional TYP-2 radar was included to meet growing CCOM [Combatant Command] demands for missile defense. This demand has grown ever since passage of that legislation.

How does MDA intend to continue TPY-2 production? And in the area of RDT&E [Research, Development, Test, and Evaluation], what would you identify as your top three to four priorities?

Admiral SYRING. The funds provided in fiscal year 2013 for the TPY-2 radar, given—and my answer to sequestration stands in terms—there was some impact there in terms of how that cut was taken, but given my reprogram request that is going to go through the Congress, I am going to find or have proposed a method to fully fund that radar and buy that radar in 2013, in terms of what I said to maintain my top priorities intact. So that is step one.

The future of TPY-2s in terms of the forward-based mode will be driven by the combatant commanders and their requirements for TPY-2s in theater. As you know, we are going to—we are working with the government of Japan and our defense partners in Japan to locate a second TPY-2 to Japan, and that is going to be very, very helpful.

One of the things that I am working with the Army on is, do we need a seventh THAAD battery, for example, and how can a TPY-

2 go with that THAAD battery, and that will be one of the items that I consider as part of my 2015 budget request working with the Army, as there is a standing requirement for nine THAAD batteries today.

My top priorities in R&D—and I will just repeat this again, sir—is discrimination and development of the discrimination capability, the prove—the continued testing and reliability improvements that are critical for the GMD system and the current GBIs. We have incorporated over 20—I want to say 24 or 25 improvements to the current CE-I fleet that I will demonstrate in flight within the next month, and that—those improvements and those continued—the continued improvements of the current fleet is part of my R&D request, as well.

So discrimination, GBI testing and reliability, and then finally, we are working very hard on the Aegis front in the region to continue to upgrade that capability to meet the requirements of EPAA phase two and three.

Mr. LANGEVIN. Thank you, Admiral.

Mr. Chairman, I yield back.

Mr. ROGERS. Thank the gentleman.

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

Mr. LAMBORN. Thank you, Mr. Chairman.

Admiral Syring, I was concerned about something you alluded to earlier. I hadn't meant to ask about this but I must.

Given the development of the Iranian threat, maybe as early as 2015, to have intercontinental capability, to see that the eastern site is going to have to go through a 1½- to 2-year environmental impact statement really bothers me because that puts us past that. Isn't it allowable under the law for the President to waive the National Environmental Policy Act for national security purposes, especially if the site development ends up on an existing military facility?

Admiral SYRING. Sir, I am not in the details of what we could waive or what we could not waive. My answer on 18 to 24 months was based on the current law and current statute and, frankly, the time period that it has taken us to do past EISs [Environmental Impact Statement].

Mr. LAMBORN. Well, Admiral, current law and current statute allows for the President to waive an environmental impact statement when we are trying to stave off a threat to our homeland, and I would hope that your advice to him would be to seek that waiver.

Admiral SYRING. Sir.

Mr. LAMBORN. Secondly, let me ask about a budget line on the information that we have—sheet that we have here. Israeli cooperative programs Arrow and David's Sling is going from \$268 million to a request of \$96 million. Why the big dropoff there?

Admiral SYRING. Sir, we—just the stage that we are and in those programs, and we have worked these numbers cooperatively with Israel. It is the requirement that we see in 2014.

Mr. LAMBORN. Okay, thank you.

Next question I would like to ask you is could you explain the priorities that you have on the kill vehicle technology that you

would like to develop? I would just like to get a little better sense of what—where you are coming from on that.

Admiral SYRING. Yes, sir. The kill vehicle technology is 1990s technology, and in terms of when that design was complete and the components that we have in it, with very little time spent or thought at the time for manufacturing, producibility, and sustainability.

The technology has moved, obviously, 20 years since then and that there is components within the current kill vehicle that we would like to target near-term for upgrade—the Inertial Measurement Unit focal plane array, some other areas that might improve with—improve the inherent organic discrimination capability of the EKV. The goodness—and there is great goodness in terms of some of the technology that has been developed as part of the Aegis kinetic warhead, and we think that there is some synergy between the two in terms of components that could be scaled and used in the same way, obviously, with the same hit-to-kill mission that could be of benefit to the EKV.

Mr. LAMBORN. Okay. And lastly, can you explain the difference in the overall goals that you have before you of capability development versus technology development? I would like to hear your thoughts on that.

Admiral SYRING. The biggest technology development that I see is exactly what I have said in terms of discrimination, radar-sensing algorithms, infrared directed energy. There is where I see the technology investment for MDA being in the future.

The balance will be continuing to field capability to the warfighter, in terms of THAAD batteries continue, Aegis BMD upgrades continue, the SM-3 1B missile deliveries are ramping up this year, and providing that much-needed capacity to the warfighter.

So I agree with you, it is a balance between keeping the future, you know, keeping the future in front of us and ahead of the threat versus providing the needed capacity to the warfighter. And certainly as I study that with General Jacoby and General Kehler this year we are looking at that exact problem.

Mr. LAMBORN. Okay. Thank you very much, and I appreciate the work that you do.

Mr. Chairman, I yield back.

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

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

And thank all of you for being here, for the investment of your lives in the cause of freedom.

Admiral Syring, I know that you have emphasized significantly discrimination related to our missile defense capability, and I know something that is potentially related to that, at least contingently related to it, is the need to improve the kill assessment capability of our GMD system. So I am going to ask you about four questions in a row here, what I usually don't do, but it gives you an opportunity to emphasize the areas that you think is most important for us to consider.

Are you, first of all, and the commander of NORTHCOM [U.S. Northern Command] and the commander of STRATCOM [U.S.

Strategic Command], close to any kind of an agreement on the way ahead to improve that capability—that kill assessment capability? How feasible is it to leverage those current capabilities? To what extent are new capabilities required? And is it feasible that the U.S. should significantly enhance this capability by the end of this decade?

Admiral SYRING. Sir, kill assessment is a very important capability that we are working on, and I do have direction from the commander of NORTHCOM on his priorities for improving kill assessment and other—frankly, other parts of what I call the assessment chain, in terms of how do we—where do we need to invest, what can we do near-term and what can we do maybe further-term to better inform his shot doctrine?

And it is just not kill assessment; there are other parts of that problem that need to be considered. There is EKV discrimination capability, there is radar-sensing capability, there is IR [Infrared]. There is a whole list of things that would give him more information for that assessment.

Underlying all this, sir, is the improvement of the GBI reliability and giving him confidence that we—each interceptor is providing, indeed, the reliability that he counts on. Yes, I am in very near-term discussions with him on that issue.

Mr. FRANKS. Well let me shift gears, then, and ask you, were you satisfied that we had sufficient missiles available to PACOM [U.S. Pacific Command] during this recent escalation in tensions and the threat of medium-range rocket launches by North Korea? You know, I guess I am concerned that a lot of our missiles were either at stockpiles at home or in other theaters, and are we doing everything that we can to allocate our resources in the best way possible?

Admiral SYRING. Sir, we had coverage to protect the homeland—sufficient coverage to protect the homeland across all of our systems—the Aegis ships that were on station, the GMD system that was on alert—is on alert, and then the THAAD battery, as you know, that went to Guam, and that capability that we provided in very short order.

Mr. FRANKS. Well, touching briefly on the old third site—not the east coast site, but the site that was once cancelled in Poland—and I am not sure exactly how much you can say, but given some of the shortcomings of the potential IIB missile to be able to really do the job there, how much impact do you think this has had on Iran's calculus or our ability to provide redundant homeland protection by not having GBIs rather than, at this point, not even the potential of IIBs in Poland?

Admiral SYRING. Sir, if I can, can I just speak to the IIB?

Mr. FRANKS. Yes, sir.

Admiral SYRING. Because I was not here back in 2009 and I would like to keep my answer to the IIB, and I referred to this earlier. The technology challenge to get to a velocity of that missile in the time and budget that we had was insurmountable, and there are many other issues that I have talked to you about, but that—those three reasons alone—the technical challenge, the cost, and the schedule—would have driven our ability to field the IIB to 2022

or beyond, and from a schedule standpoint, sir, that wasn't going to cut it.

So the President and Secretary Hagel made the decision to focus on North Korea first, which we are doing with the additional interceptors west in Greely, and then the second part of that focus will be what do we need to do as Iran continues to progress. And, sir, we are studying that in great detail with the combatant commanders.

Mr. FRANKS. Well, so you know, I think you have made every decision correctly; there is no criticism here aimed in your direction at all. I am somewhat concerned—maybe this is—I suppose this is a real intellectual “I told you so” kind of thing related to the GBIs that were once planned there, which would have had sufficient acceleration and speed to be able to give us that redundant protection that now we will not have, and it will not have the ability to change the Iranian calculus, as well.

So, but anyway, glad you are on the job.

Thank you all.

And thank you, Mr. Chairman.

Mr. ROGERS. Thank the gentleman.

Chair now recognizes the gentleman from Ohio, Mr. Turner, for 5 minutes.

Mr. TURNER. Thank you, Mr. Chairman.

Admiral Syring, do you agree with NORTHCOM Commander Jacoby that, “What a third site gives me, whether it is on the east coast or in an alternate location, would be increased battle space. That means increased opportunity for me to engage threats from either Iran or North Korea.” Do you agree with that?

Admiral SYRING. Yes.

Mr. TURNER. Thank you.

I think that is incredibly important as we look to the possibility of an east coast site, which, of course, would give us that third site option. I was the author of the amendment in the NDAA of last year to establish the east coast site. The numbers that we have been working with—\$100 million last year in the NDAA and \$232 million looking at the cost to build the site in 6 years—have been based upon what General Reilly had told us as we look to, you know, moving forward with this site.

Ms. Creedon, I have a great deal of respect for you but you have to admit at this point that the Administration's missile defense policies are in absolute shambles. I have a letter dated April 17th to Barack Obama which I would like the chair to put into the record that acknowledges that this policy that the Administration has established of undoing and then redoing the Bush administration's Alaska site is completely insufficient as a basis for protecting the United States, and I want to do a real quick drive-through of where we are and why we are.

[The information referred to can be found in the Appendix on page 75.]

Mr. TURNER. The Bush administration had planned by 2013 that the Alaska site would be completed and that there would be forward-based missiles in Europe, including a radar, and that would be a third site to provide to the doctrine of shoot-look-shoot, which General Jacoby and Admiral Syring just said is preferable for pro-

tecting the United States. In the context of the national intelligence estimate of the public statements of our intelligence community that the threat from Iran and North Korea to the continental United States from an ICBM attack with a nuclear weapon could be as early as 2015, the Administration came and cancelled the third site in Europe, significantly reduced the site in Alaska, and said, contrary to all intelligence estimates that were public and that we were receiving, that the threat was slow to emerge so we could wait until 2020 to protect the homeland with a third site, paraded out the phased adaptive approach that had a fourth phase that would include protection of the United States by 2020, one that I opposed because I believe, A, it was going to be late—there will be a gap between the 2015, what the intelligence community was saying, and 2020; and two, that it looked like it was not going to be achievable because it was a paper system, not something that had yet been completed.

We now see ourselves with, of course, that fourth system being cancelled—that fourth phase being cancelled because it would have slipped past 2020 and was not technically feasible. The Administration has now gone back and said we will complete the Alaska site that the Bush administration would have had completed by 2013 with a timeframe of 2017.

But where we are now is that North Korea has moved a missile to a launch pad that our intelligence community says could be an ICBM and could have a nuclear weapon on top of it. And now the Administration is saying that we are going to complete Alaska and currently isn't embracing an east coast site, which would provide what Admiral Syring just said and what Commander Jacoby said is preferable of having a third site for shoot-look-shoot.

Now, the Obama administration had indicated in its missile defense strategy that there needed, in addition to the phased adaptive approach, there needed to be a hedge if the threat was quicker to emerge than this Administration's analysis of 2020. Now, I assure you that no one in Congress believed that that hedge was going to be less protection from the homeland; everyone believed that the hedge would be an increased protection.

But now we have it the threat has been quicker to emerge, North Korea actually threatening the United States, and you have cancelled the fourth phase of the phased adaptive approach, and you are opposing the east coast missile defense site, and you have cancelled the European forward-based Bush administration missiles, and we have no hedge.

Now, Ms. Creedon, it would have been laughable if the Administration had come in 5 years ago with this plan and said it was going to be sufficient to protect the United States, and now, quite frankly, I believe it is just straight-up dangerous. And my letter to the President of the United States is saying that the current plan for this Administration to just build out Alaska doesn't even meet the Obama administration's own standards.

So what is coming next, Ms. Creedon? Are you going to actually dedicate yourself to expanding our missile defense system to protect the homeland?

Secretary CREEDON. Yes, sir. That is exactly what the decision to go to the additional 14 GBIs is—

Mr. TURNER. No, no, no, wait. That is not sufficient. As you know, that was scheduled already under the Bush administration plan to be completed. Saying you are going to go now back and complete what they would have had in the ground by 2013 is not expansion.

What are you going to do to give the third site that Admiral Syring says that we need and that Commander Jacoby says that we need for shoot-look-shoot, which has been the doctrine while all these threats have been emerging? I mean, we are now here, the threats are knocking on our door, and now you are dismantling what would be the important doctrine that we need.

Secretary CREEDON. Let me roll back just a little bit in time just to today and reference back to the discussion that we had earlier about the test program and the challenges that had been associated with the GBIs that were in Alaska, so part of the time that we bought by keeping the hedge intact, completing the missile fields, not doing away with the extra six silos in Missile Field 1, has allowed us to continue to improve the capability and the reliability of the GBIs—both the CE-I's that are there, and now working on the CE-II.

So the CE-II, which was the new kill vehicle, as we all know, had a failure. We have been able to improve that. There has been one test already; there is another test scheduled for the end of the year.

So what we bought in that period of time is time to actually fix the GBIs and make them more reliable, because where we were in 2009 was not having the degree of confidence in the GBIs that we needed to have, particularly in the new ones. So with the work that has been done there, the—all the enhancements to the CE-I that have been done over the course of the last 4 years, and the work that is going on has increased the capability of those GBIs.

Now with the 14, that is a big step forward. So we have 14 more and they are going to be more capable than they would have been. And this will also help in looking at how we defend against anything that would develop from Iran as well as anything that develops from Korea.

Mr. ROGERS. Thank the lady.

And the gentleman's time is expired.

I do want to accept the letter that he offered for the record—without objection, so ordered—and remind you all, we had hoped to have this hearing an hour earlier, which would have given us time for a second round, but they have called us for votes.

So the record will be held open for 10 days. Members may submit questions to you and, I would ask that you return those in writing.

And with that, thank you again for your attendance. This hearing is adjourned.

[Whereupon, at 5:06 p.m., the subcommittee was adjourned.]

A P P E N D I X

MAY 8, 2013

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MAY 8, 2013

Statement of Hon. Mike Rogers
Chairman, House Subcommittee on Strategic Forces
Hearing on
Fiscal Year 2014 National Defense Authorization
Budget Request for Missile Defense Programs
May 8, 2013

I would like to take this opportunity to thank our witnesses for being here today and investing their time in preparing their written and oral statements. We have a good panel today; our witnesses are:

- The Honorable Madelyn Creedon, Assistant Secretary of Defense, Global Strategic Affairs, Office of the Secretary of Defense;
- Vice Admiral James D. Syring, USN, Director, Missile Defense Agency; and
- The Honorable J. Michael Gilmore, Director, Operational Test and Evaluation, Office of the Secretary of Defense.

Before I start my brief remarks, I'd just like to say, at the risk of giving you a big head, Admiral, we are grateful to have you here today in this position as Director. Those of us who follow missile defense closely, as I have been doing for my 11 years on this committee, have noticed the significant difference at that agency since you have assumed your new position of responsibility. We are grateful for your service and its imposition on your family. And we are grateful to our other witnesses as well.

I will be brief so that we can get into the good part of this hearing, which is your statements and our opportunity to ask questions. While I am pleased that the President adjusted his missile defense strategy to one more closely resembling the plans of the previous administration in recognition of the threat this country faces, I have to say that I continue to be concerned about what appears to be a lack of support for missile defense by this Administration.

The cut to this year's budget request—\$100 million from the topline, and even more when compared to last year's appropriated sums and the addition of new programs this year—comes on top of more than \$6 billion in cuts to the Missile Defense Agency since President Obama came to office in 2009, more than 16% below what was planned by the Bush administration. And while programs have been cancelled, like the PTSS and SM-3 block IIB programs, decisions I largely agree with, those funds have been hollowed out of the missile defense budget instead of kept in it. Even with the plus-up of \$1 billion over the next several years to implement Secretary Hagel's missile defense announcement on

March 15th, we're still facing a further cut of \$3 billion from the MDA topline across the President's FY14 FYDP.

Yet the threat to the homeland is considerably greater this year than last:

- Why are we waiting for enemies to field capabilities before we build defenses?
- Are we going to anticipate the threat from Iran and be ready to meet it, or just wait until they deploy?

I intend to explore these issues today.

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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

MADelyn CREEDON
ASSISTANT SECRETARY OF DEFENSE FOR GLOBAL STRATEGIC
AFFAIRS
BEFORE THE HOUSE ARMED SERVICES COMMITTEE
MAY 8, 2013

NOT FOR DISTRIBUTION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Introduction

Chairman Rogers, Ranking Member Cooper, and Members of the Subcommittee, thank you for the opportunity to testify in support of the Department's Fiscal Year (FY) 2014 budget request for missile defense. Ballistic missile defense is a critical capability for the United States with important ramifications for several of the Department's mission areas.

The President's budget requests \$9.2 billion in FY 2014 and \$45.7 billion over the Future Years Defense Plan to develop and deploy missile defense capabilities that protect the U.S. homeland and strengthen regional missile defenses. The Administration remains committed to developing proven and cost-effective missile defense capabilities through the phased adaptive approach to regional missile defense. This approach puts emphasis on a flexible military toolkit with forces that are mobile and scalable so that they underwrite deterrence in peacetime, but can be surged in crisis to meet defense requirements.

I will begin with a discussion of the ballistic missile threat, and then focus on our progress on three key policy priorities: sustaining a strong homeland defense, strengthening regional missile defense, and fostering increased international cooperation and participation.

Ballistic Missile Threat

We continue to see well-established trends associated with ballistic missile development, including larger numbers, greater ranges, and more advanced systems. There is also evidence that such weapons are becoming a convention of contemporary warfare, as evidenced most recently by the use of ballistic missiles in the crisis in Syria.

Iran

The Intelligence Community (IC) assesses that Iran is developing nuclear capabilities to enhance its security, prestige, and regional influence and give it the ability to develop nuclear weapons, should a decision be made to do so. Although we do not know if Iran will eventually decide to build nuclear weapons, Iran has developed technical expertise in a number of areas – including uranium enrichment, nuclear reactors, and ballistic missiles – from which it could draw if it decided to build missile-deliverable nuclear weapons.

The IC assesses that Iran would likely choose a ballistic missile as its preferred method of delivering a nuclear weapon, if one is ever fielded. Iran has demonstrated an ability to launch small satellites, and has worked to develop larger space-launch vehicles and longer-range missiles.

Iran already has the largest inventory of ballistic missiles in the Middle East, and it is expanding the scale, reach, and sophistication of its arsenal. Iran's growing ballistic missile inventory and

its domestic production of anti-ship cruise missiles (ASCM) and development of its first long-range, land-attack cruise missile provide capabilities to enhance its power projection.

Syria

While Syria does not pose a ballistic missile threat to the U.S. homeland, the Asad regime does possess short-range ballistic missiles, and has shown a willingness to use them repeatedly against the Free Syrian Army. Additionally, the IC assesses that Syria has an active chemical warfare (CW) program and maintains a stockpile of sulfur mustard, sarin, and VX nerve agent; along with a stockpile of munitions – including missiles, aerial bombs, and possibly artillery rockets – that can be used to deliver CW agents.

North Korea

North Korea's nuclear weapons and missile programs pose a serious threat to the United States and to the security environment in East Asia, a region with some of the world's largest populations, militaries, and economies.

North Korea's long-range ballistic missile capabilities have advanced rapidly during the last year. The increased pace of this emerging threat required the United States to adapt its homeland defense capabilities. North Korea displayed what appeared to be a road-mobile, intercontinental ballistic missile (ICBM) in April 2012, which it may have taken initial steps to deploy, and announced in February 2013 that it had conducted its third nuclear test. North Korea also used its Unha-3, based on the Taepo Dong-2 ICBM, to put a satellite in orbit in December 2012, thus demonstrating long-range missile technology, and may conduct additional missile tests in the near future.

These programs demonstrate North Korea's commitment to develop long-range missile technology that could pose a direct threat to the United States. North Korea's efforts to produce and market ballistic missiles raise broader regional and global security concerns, by threatening the United States' allies and partners and increasing our concerns about ballistic missile technology proliferation

Homeland Defense

The U.S. homeland is currently protected against potential limited ICBM attacks from States like North Korea and Iran by the Ground-based Midcourse Defense (GMD) system. This system consists of Ground-Based Interceptors (GBIs), early-warning radars, sea-based radar systems, and a sophisticated command and control architecture.

We are committed to maintaining an advantageous position vis-à-vis the threats from North Korea and Iran. This requires continued improvement to the GMD system, including enhanced performance by the GBIs and the deployment of new sensors.

We have also developed and maintained a hedge strategy within our GMD program to address possible delays in the development of new missile defense systems and the possibility that the projected ICBM threat could begin to emerge faster or in larger numbers. This desire to maintain a hedge led to decisions in previous budgets to complete eight additional silos in Missile Field 2 and maintain six silos originally slated for decommissioning in mothball status in Missile Field 1 at Fort Greely, Alaska. Additionally, we continued the development of the two-stage GBI.

The steps we have taken in the FY 2014 budget request will help to ensure that the United States possesses the capability to counter the projected threat for the foreseeable future. The budget maintains funding for ongoing efforts to improve the GMD system, such as:

- a GBI reliability improvement program, which includes the rigorous testing of the Capability Enhancement-II version of the GBI kill vehicle;
- upgrades to the Command, Control, Battle Management, and Communications (C2BMC) system;
- emplacement of an additional In-Flight Interceptor Communications System Data Terminal on the U.S. East Coast by 2015; and
- upgrades to the Early Warning Radars at Clear, Alaska by 2017, and Cape Cod, Massachusetts, by 2018.

As a result of the increasing threat from North Korea and delays due to funding cuts to the SM-3 IIB program, the President decided to exercise the hedge options described below. DoD is implementing the President's decision to strengthen the U.S. homeland missile defense posture, as announced by Secretary of Defense Hagel on March 15, 2013.

First, DoD will deploy eight additional GBIs in the existing silos in Missile Field 2 in Fort Greely, Alaska. Second, DoD will refurbish and harden the six mothballed silos in Missile Field 1 at Fort Greely and then emplace six additional GBIs in the refurbished silos. The combination of these steps will add 14 interceptors to the GMD system for a total of 44 deployed GBIs defending the U.S. homeland. When these 14 additional GBIs are deployed in 2017, we will have increased the number of GBIs by nearly 50 percent.

Third, DoD will evaluate at least three locations, and prepare environmental impact statements (EIS), for a potential additional GBI site in the continental United States. Although the Administration has not decided to proceed with an additional GBI site, if such a decision were made in the future, doing this work now would shorten the timeline for construction.

Fourth, in order to maintain a robust testing program and sufficient operational spares, DoD will procure 14 additional GBIs to replace those test and spare GBIs that will now be deployed in Fort Greely, Alaska.

Fifth, with the support of the Japanese Government, the United States will deploy an additional AN/TPY-2 radar in Japan. This will provide improved early warning and tracking of any missile

launched from North Korea at the United States, and improve regional defenses, including the protection of Japan.

Sixth, DoD is restructuring the Standard Missile (SM) -3 IIB program into a technology development program focusing on common kill vehicle technology for both the GBI and the SM-3 family of interceptors. Focusing on next generation kill vehicle technology development will improve our ability to address emerging threats and thus ensure protection of the United States, our Allies and partners, and our deployed forces overseas. By consolidating future kill vehicle technology development efforts, MDA will work with industry primes and suppliers to define the best technical approach for a modular, open architecture that yields improvements for reliability and performance at a lower cost.

We had planned to deploy the SM-3 IIB for the defense of the United States from Aegis Ashore sites in Europe. The timeline for deploying this program, however, had been delayed to at least 2022 due to funding reductions from the requested amount. As a result, we have decided to shift resources from this program to fund the additional GBIs, as well as new advanced kill vehicle technology. This step will allow us to improve our defense against missiles from Iran sooner than we otherwise would have, while also providing additional protection against the North Korean threat. As a result, no money is being requested in FY14 for the SM-3 IIB program.

DoD also determined that the continued development of the Precision Tracking Space System (PTSS) was too high-risk in terms of budget and schedule, and is terminating the program. We will continue to evaluate options to determine the most effective way to meet our missile defense sensor requirements.

Regional Missile Defense

DoD's budget request for FY 2014 continues to implement regional approaches that are tailored to the unique deterrence and defense requirements of Europe, the Middle East, and Asia-Pacific regions. These regions vary considerably in their geography, history, and character of the threat faced, and in the military-to-military relationships on which we seek to build cooperative missile defenses. Because the demand for missile defense assets within each region over the next decade will exceed supply, the United States is developing and fielding capabilities that are mobile and capable of being redeployed to different locations as necessary.

Missile defense is an integral part of a comprehensive U.S. effort to strengthen regional deterrence architectures, and plays a central role in the strategic guidance DoD released in January 2012.

Phased Adaptive Approach Implementation: Europe

The elements of the first phase of the European Phased Adaptive Approach (EPAA) are in place. We have maintained a sea-based missile defense presence in the region since March 2011. An AN/TPY-2 radar was deployed to the Turkish military base at Kürecik in 2011. Additionally, associated command and control capabilities, such as the U.S. Air Operations Center at Ramstein Air Base, Germany, are now in operation.

In Phase 2, the architecture will be expanded with a land-based SM-3 site in Romania, and with an upgraded Aegis BMD Weapons System and SM-3 Block IB interceptors that will be deployed on land and at sea. The Ballistic Missile Defense Agreement (BMDA) with Romania entered into force in December 2011, so the groundwork has been set for the site to become operational in the 2015 timeframe. Ground breaking on that site will occur later this year.

We have also taken steps to meet the requirement in the EPAA for sea-based BMD capabilities. In 2011, Spain agreed to host four U.S. Aegis destroyers at the existing naval facility at Rota. These multi-mission ships will support the EPAA, as well as other U.S. European Command and NATO maritime missions. The first two ships are scheduled to arrive in 2014, and the final two ships will arrive in 2015.

In Phase 3, a second land-based SM-3 site will be deployed in Poland in the 2018 timeframe. The more capable SM-3 Block IIA interceptors will be deployed on land and at sea, extending coverage to all NATO Allies in Europe. The ballistic missile defense agreement with Poland entered into force in September 2011.

The restructuring of the SM-3 IIB program to focus on the development of common kill vehicle technology means that we are no longer planning for Phase 4 of the EPAA, the primary purpose of which had been to augment missile defense protection of the United States from a site in Europe. As Secretary Hagel emphasized in his announcement in March, our commitment to NATO missile defense “remains ironclad” as demonstrated by our strong support for the BMD capabilities either already deployed, or being developed for Phases 1 through 3 of the EPAA. Phase 3 will still be capable of providing coverage of all European NATO territory. We have discussed this decision with our NATO Allies, and the initial reaction has been positive.

NATO Missile Defense Implementation

As we continue to implement the EPAA, we are also supporting the President’s commitment to contribute the EPAA capabilities to NATO missile defense. We are working in close collaboration with our NATO Allies to develop an advanced network of sensors and interceptors – on land and at sea – to protect NATO territory.

This Administration has made the missile defense protection of Europe a central feature of transatlantic security policy. At the 2010 NATO Summit in Lisbon, Portugal, President Obama and his fellow NATO Heads of State and Government approved a new Strategic Concept, which took the historic step of committing to the defense of European NATO populations and territory against the growing threat of ballistic missiles. At the 2012 NATO Summit in Chicago, the assembled leaders announced that the Alliance had achieved an interim BMD capability – in other words, an operationally meaningful ballistic missile defense capability.

The United States and our NATO Allies have worked together to make significant progress on the development of collaborative, networked missile defense systems. Vital command-and-control capabilities for missile defense are now operational. The NATO command-and-control backbone, the Active Layered Theater Ballistic Missile Defense (ALTBMD) system, has reached an interim operational capability, and will evolve toward full capability between 2018 and 2020.

We continue to carry out exercises designed to hone our Alliance missile defense capabilities. A key missile defense exercise involving NATO is NIMBLE TITAN, a biennial, global campaign. The NIMBLE TITAN 12 exercise included 14 participant nations – including the United States, many NATO countries, Japan, Australia, and the Republic of Korea.

As we begin planning for NIMBLE TITAN 14, which begins later this year and will carry into 2014, 21 nations have already signed on to participate. Nimble Titan 14 will include tabletop exercises involving threats in Northeast Asia and Southwest Asia, as well as a capstone event involving all participants on a global scale.

Phased Adaptive Approaches in Other Regions

We are also working to implement the principles of the phased adaptive approach in the Asia-Pacific region and the Middle East region, building on the existing foundations of U.S. defense cooperation in these regions. These approaches must be tailored to the unique mix of threat and geography in each region. In the Asia-Pacific region, the security environment is largely maritime in character, with vast distances between some of the states that make up the region, requiring both maritime assets and defenses against longer-range missiles. The Middle East region is far more compact, and the threat comes from missiles of short- and medium-range. The footprint of United States military presence is different in each region, and will evolve in different ways over the coming decade. The potential threat to the United States homeland from regional actors varies, and the role that regional defenses plays in protection of the United States and our deployed forces and assets will change as well.

These regional approaches to ballistic missile defense should allow stronger partnerships with our allies and partners in meeting emerging security challenges, and provide opportunities to build partner capacity.

International Cooperation

Europe

The United States encourages continued Allied contributions to NATO missile defense. EPAA host nations (Poland, Romania, Spain, and Turkey) will provide the basing rights and external security for the facilities where EPAA assets are located. The Netherlands has committed to spend up to 250 million Euro to upgrade the SMART-L radars on four of their frigates so they can contribute to NATO BMD in the 2018 timeframe. The Netherlands and Germany have also committed Patriot PAC-3 systems to NATO missile defense, including through the ongoing NATO deployment in defense of Turkey. France and Italy intend to contribute the SAMP/T air and missile defense system, scheduled to become operational in 2013, to NATO BMD. France is also planning to provide its Spirale satellite detection system and a long-range radar. Looking to the future, the United States will continue to encourage its NATO Allies to do even more to cooperate and invest in missile defense. Several Allies have modern surface combatant ships that could be upgraded with a BMD sensor or interceptor capability. A number of NATO Allies also have proposed concepts for a multinational interceptor “pool” concept, whereby Allies collectively purchase interceptors such as the SM-3 to support NATO missile defense. Additionally, some Allies are considering the purchase of Patriot PAC-3.

Asia-Pacific

The cornerstone of our security and diplomacy in the region has historically been our very strong bilateral alliances, including with the Republic of Korea, Japan, and Australia. All three of these nations play an important role in our regional efforts to achieve effective missile defense.

The Republic of Korea obviously has an immediate, proximate stake in preventing missile strikes from the North. We have worked very closely with the ROK to ensure that we maintain the capacity and interoperability to do just that. The United States deploys PAC-3 batteries in South Korea to defend U.S. and South Korean forces.

In addition, the ROK is taking steps to enhance its own air and missile defense systems, which include sea- and land-based sensors and Patriot PAC-2 batteries.

We have been consulting closely with the ROK about how it can upgrade its missile defense capabilities. Enhanced intelligence, surveillance, and reconnaissance through the potential South Korean purchase of Global Hawk would contribute to a more robust posture. We are mutually committed to sustain and strengthen protection against the North Korean missile threat.

Japan has acquired its own layered missile defense system, which includes Aegis BMD ships with Standard Missile-3 interceptors, PAC-3 batteries, early-warning radars; and sophisticated command-and-control systems. In addition, Japan is a critical international partner for BMD development. One of our most significant cooperative efforts with Japan is the co-development of an advanced version of the SM-3 interceptor, the SM-3 Block IIA. In addition, we have

deployed an AN/TPY-2 radar – which provides early warning and tracking – to Japan, and, as previously mentioned, we plan to deploy a second AN/TPY-2 to Japan.

With regard to Australia, we signed a memorandum of agreement on missile defense cooperation in 2004, and have formed a close partnership on research and development – most notably with regard to sensors. In addition, Australia is involved in one of our two trilateral discussions on missile defense in the Pacific involving the United States, Australia, and Japan; the other is with the United States, the Republic of Korea, and Japan.

These trilateral discussions are part of our efforts to expand international missile defense cooperation, strengthen regional security architectures, and build partner capacity. We have already seen the value of these multilateral approaches. For example, Japan, the Republic of Korea, and the United States successfully tracked two near-simultaneous launches of ballistic-missile targets as part of the multilateral PACIFIC DRAGON exercise last summer. In December 2012, we cooperated very closely in tracking the North Korean Unha-3 space launch.

Going forward, we will continue to emphasize the importance of developing a regional ballistic missile defense system that includes the sharing of sensor data among Allies.

Middle East

The United States maintains an exceptionally strong defense relationship with Israel, including on missile defense, which has resulted in one of the most comprehensive missile defense architectures in the world. Israeli programs such as Iron Dome, the David's Sling Weapon System, and the Arrow Weapon System, in conjunction with operational cooperation with the United States, create a multi-layered architecture designed to protect the Israeli people from varying types of missile threats. Missile defense figured prominently in the AUSTERE CHALLENGE exercise we conducted with Israel in the fall of 2012, the largest U.S.-Israeli military exercise in history.

The United States is also working with a number of Gulf Cooperation Council (GCC) States on missile defense, including supporting the purchase of missile defense systems through the Foreign Military Sales program. For example, the United Arab Emirates is procuring the Terminal High Altitude Area Defense (THAAD) system. This is in addition to the UAE's earlier purchase of Patriot systems. These capabilities will significantly enhance the UAE's defense against ballistic missile attack.

This past year, U.S. Air Force Central Command initiated a series of regular exchanges between United States and GCC air defense officers at the Combined Air Operations Center located at Al Udeid Air Base in Qatar.

Finally, at the inaugural U.S.-GCC Strategic Cooperation Forum in Riyadh, GCC foreign ministers and then-Secretary of State Clinton highlighted the threat that ballistic missiles pose against critical military and civilian infrastructure. One result of these high-level talks was that the ministers agreed on the need to deepen U.S.-GCC BMD cooperation which they see as an essential element of their effort to promote peace and stability in the region.

Russia

The United States continues to seek cooperation with Russia on missile defense, both bilaterally and with our Allies through the NATO-Russia Council. We are pursuing this cooperation because it would be in the security interests of all parties and could strengthen the defensive capabilities of both NATO and Russia. Allies embraced such cooperation with the hope of advancing broader strategic partnership with Russia. The United States has pursued missile defense cooperation with Russia with the clear understanding that we will not accept constraints on our missile defense systems, we will implement the EPAA, and Russia will not have command and control over NATO ballistic missile defense efforts. NATO would be responsible for the defense of NATO, and Russia would be responsible for the defense of Russia.

The United States has kept the Congress and our Allies informed about our efforts with Russia on missile defense cooperation, which have included the proposal to establish missile defense cooperation centers in Europe. The United States has been open and transparent with Russia about our plans for European missile defenses, and explained in detail why U.S. missile defense systems in Europe will not negate the Russian strategic nuclear deterrent.

Although we have had no breakthroughs, the Administration remains committed to pursuing substantive missile defense cooperation with Russia because it remains in our security interests to do so.

Conclusion

The ballistic missile threat – to the United States, to our Allies and partners, and to our forces overseas – is evolving, and so we must adapt our responses to mitigate this threat.

I have touched upon a number of policies that we and our allies have pursued to address and counter this threat. We have had some very significant successes over the last several years, but this Administration has emphasized from the beginning that we cannot afford to stand still. To the contrary, we need to re-evaluate the threat continually and adapt as necessary. The President's budget request for FY 2014 reflects DoD's goals of retaining the flexibility to adjust, and to enhance our defenses as the threat and as technologies evolve. Our most vital security commitments – the defense of the United States and the protection of our allies and partners and our forces around the world – demand nothing less.

I want to thank you for having me here today, and I look forward to your questions.



Madelyn R. Creedon

Assistant Secretary for Global Strategic Affairs (GSA)



Madelyn Creedon was confirmed by the U.S. Senate as the Assistant Secretary of Defense for Global Strategic Affairs (GSA) on August 2, 2011. In this capacity she supports the Under Secretary of Defense for Policy in overseeing policy development and execution in the areas of countering Weapons of Mass Destruction (WMD), U.S. nuclear forces and missile defense, and DOD cyber security and space issues.

Prior to her confirmation, Ms. Creedon was counsel for the Democratic staff on the Senate Committee on Armed Services and was responsible for the Subcommittee on Strategic Forces as well as threat reduction and nuclear nonproliferation issues.

In 2000, she left the Armed Services Committee to become the Deputy Administrator for Defense Programs at the National Nuclear Security Administration, Department of Energy (DOE), and returned to the Committee in January 2001.

Prior to joining the Armed Services Committee staff in March 1997, she was the Associate Deputy Secretary of Energy for National Security Programs at the Department of Energy, beginning in October 1995.

From November 1994 through October 1995, Ms. Creedon was the General Counsel for the Defense Base Closure and Realignment Commission. This Commission, under the Chairmanship of former Senator Alan Dixon of Illinois, was responsible for recommending to the President military bases for closure or realignment.

From 1990 through November 1994, Ms. Creedon was counsel for the Senate Committee on Armed Services, under the Chairmanship of Senator Sam Nunn. While on the committee staff she was responsible for DOE national security programs, DOE and DOD environmental programs, and base closure transition and implementation programs.

Before joining the staff of the Senate Armed Services committee, Ms. Creedon was a trial attorney and Acting Assistant General Counsel for special litigation with the DOE Office of the General Counsel for 10 years.

Born and raised in Indianapolis, Indiana, Ms. Creedon is a graduate of St. Louis University School of Law, where she was captain of the moot court team. Her undergraduate degree is in political science from the University of Evansville, Evansville, Indiana.



Unclassified Statement of

Vice Admiral James D. Syring
Director, Missile Defense Agency

Before The

House Armed Services Committee
Subcommittee on Strategic Forces

Wednesday, May 8, 2013

*Embargoed Until Released by the
House Armed Services Committee
United States House of Representatives*

**Vice Admiral J.D. Syring, USN
Director, Missile Defense Agency
Before the
House Armed Services Committee
The Strategic Forces Subcommittee
May 8, 2013**

Good afternoon, Chairman Rogers, Ranking Member Cooper, distinguished Members of the subcommittee. I appreciate this opportunity to testify before you for the first time as the Director of the Missile Defense Agency (MDA). Our current budget request of \$7.684 billion for Fiscal Year (FY) 2014 will continue the development of defenses for our Nation, deployed forces, allies, and international partners against increasingly capable ballistic missiles. Since the previous Director testified before you last year, we have made good progress in the development and deployment of the Ballistic Missile Defense System (BMDS) and we continue to build capabilities to defeat more complex threats. My priorities in FY 2014 are to continue our strong support of the warfighter, fix what needs to be fixed, support what we have deployed, and deliver more capability to the Combatant Commanders (COCOMs).

Ballistic Missile Threat

The threat continues to grow as our potential adversaries are acquiring a greater number of ballistic missiles, increasing their range and making them more complex, survivable, reliable, and accurate. The missile defense mission is becoming more challenging as potential adversaries incorporate BMD countermeasures. Space-launch activities in Iran and North Korea involve multistage systems that serve to further the development of ballistic missile technology for longer-range systems including intercontinental ballistic missile (ICBM) technologies and systems. As the Director for National Intelligence recently stated, "Iran has demonstrated an ability to launch small

satellites, and we grow increasingly concerned that these technical steps . . . provide Tehran with the means and motivation to develop larger space-launch vehicles and longer-range missiles, including an ICBM.” In addition to the Taepo Dong 2 SLV/ICBM, North Korea is developing a road-mobile ICBM and an intermediate-range ballistic missile (IRBM) capable of reaching Guam, the Aleutian Islands, and potentially Hawaii. Iran also has steadily increased its ballistic missile force, deploying next generation short- and medium-range ballistic missiles (SRBMs and MRBMs) with increasing accuracy and new submunition payloads. Iran has publicly demonstrated the ability to launch simultaneous salvos of multiple rockets and missiles and openly discussed tests of an anti-ship ballistic missile.

Support for the Warfighter

Our overriding goal is to provide support to the warfighter. To this end we will increase system reliability, focusing especially on improving the performance of the Ground Based Interceptors (GBIs) and the Aegis Weapons System, including the Standard Missile (SM-3) interceptors and continuing our support for operational systems like the AN/TPY-2 radar and the Command, Control, Battle Management and Communications (C2BMC) at fielded sites. We will also deliver more interceptors for Terminal High Altitude Area Defense (THAAD), Aegis Ballistic Missile Defense (BMD), and, pending a successful return to intercept, Ground-based Midcourse Defense (GMD) as we look for ways to make it more operationally effective and cost-effective.

We remain committed to conducting developmental and operationally realistic tests and use a “fly before you buy” approach. MDA continues to work closely with the Director, Operational Test & Evaluation (DOT&E) and collaboratively with independent

testers and the Services. We follow an Integrated Master Test Plan (IMTP), a comprehensive, integrated, and cost-effective flight and ground test program that blends developmental testing with tests that employ operationally realistic conditions to demonstrate BMD capabilities against current and projected threats. I have reviewed the DOT&E 2012 Assessment of the BMDS, which identified areas that need improvement, specifically in the areas of BMDS system-level testing and the accreditation of BMDS element models. The report's findings acknowledged our integration accomplishments. We must still work to improve battle management for a fully integrated BMDS. We also agree that we need improved GMD performance models to fully characterize system performance. Similarly, although the report did note our progress in testing against targets with certain SRBM and MRBM characteristics, the acquisition of additional accredited target models will help evaluate the performance of all phases of regional defense, specifically for the European Phased Adaptive Approach (EPAA).

In order to provide the warfighters confidence in the execution of their integrated air and missile defense plans and the opportunity to refine operational doctrine and tactics, this year we plan to demonstrate the ability of the integrated BMDS to defeat up to three near-simultaneous air and ballistic threats. In the integrated BMDS flight test (FTI-01) this past October, the largest, most complex ballistic missile defense test ever attempted, we demonstrated the capability of the BMDS to engage upon a raid of five near-simultaneous representative threats, air-breathing and ballistic missiles, hitting four out of five targets. In this year's operational BMDS flight test we will use an operationally relevant scenario to demonstrate the integration of regional defense systems. In FTO-01

we will engage two medium-range ballistic missile targets launched within minutes of one another with Aegis BMD and THAAD using Forward Based Mode (FBM) AN/TPY-2 radar and the C2BMC system operated by Soldiers, Sailors, and Airmen. In Fiscal Year 2014 President's Budget Submission (April 2013) we have added 12 more flight tests to the IMTP, going from 37 tests in IMTP version 12.2 to 49 tests in IMTP version 13.1. As the BMDS matures we need to increase complexity in our flight tests by doing the following: adding system-level operational tests; increasing the number of BMDS assets in those tests; increasing the numbers, types (ballistic and air-breathing) and ranges of the threat representative targets we use and conducting more simultaneous launches; and adding the entire warfighting chain of command to evaluate concepts of operation and tactics, techniques and procedures. We have also increased the number of ground-tests in those planning periods from 88 to 106.

Homeland Defense

MDA's highest near-term priority remains the successful GMD intercept flight test of the newest GBI Exo-atmospheric Kill Vehicle (EKV) – the Capability Enhancement (CE)-II EKV. The successful non-intercept controlled flight test of the CE-II GBI earlier this year (CTV-01) gives us confidence and cautious optimism we have addressed the causes of the FTG-06a endgame failure in December 2010 and are on the right track for a successful return to intercept using the redesigned EKV. Based on our analysis of the data from CTV-01, we currently plan to conduct FTG-06b in early FY 2014 to demonstrate the ability of the CE II EKV to discriminate and intercept a lethal object from a representative ICBM target scene. We plan to conduct another intercept test using a two or three-stage GBI and the CE II EKV by the end of FY 2014 (FTG-09).

With DOT&E concurrence, we plan to accelerate the next intercept test of the CE-I EKV (FTG-07) to take place this May or June in order to increase warfighter confidence and maintain a testing cadence. We have made numerous improvements to the CE-I fleet through refurbishments since the last successful CE-I flight test in 2008, and this test will demonstrate the reliability of those refurbished GBIs. I am committed to flight testing the GMD system, at a minimum, once per year; however, I can assure the Committee that I will not approve the execution of a flight test unless I believe we are ready. We will work closely with DOT&E to develop scenarios and targets for all of our tests.

We share the Government Accountability Office concern about concurrency in the GMD program and have restructured our GMD return to intercept (RTI) plan and schedule to design and qualify EKV fixes that address root cause of the FTG-06a failure, and confirm the fixes through rigorous ground and flight testing. The original RTI plan accepted significant and excessive concurrency (parallel development, testing and production activities) and the result has been continued slips in the RTI plan. The current baseline RTI plan reduces this concurrency using systems engineering "gated" events that confirm critical components are ready to proceed to testing and production while leaving options open to integrate lower risk components.

Today, 30 operational GBIs protect the United States against a limited ICBM attack from current regional threats, such as North Korea and Iran. Over the past year we have achieved higher operational availability rates with the GMD system, mainly through high levels of redundancy in the GMD Fire Control and communications systems. The currently operational hardened Fort Greely, Alaska (FGA) power plant

distributes commercial power and provides generator power during outages. We continued to maintain and improve the GMD guidance system and engagement performance through software upgrades of the CE-I and CE-II EKV's. Last year we completed construction of the 14-silo Missile Field-2 at FGA and emplaced the first GBI in that field in March 2012. We also relocated the last interceptors from Missile Field-1. This year we will continue with our Enhanced Reliability and Stockpile Reliability Programs to track performance, aging, and reliability metrics, software updates, and technology enhancements for all GMD ground systems.

MDA requests \$1,033.9 million in FY 2014 in Research, Development, Test and Evaluation (RDT&E) funding for GMD to sustain the current system and take steps to address the continued development of ICBMs by countries such as North Korea. In addition to our flight testing activities, we will continue our GMD reliability activities and fleet upgrade program. We are also increasing the number of GBIs we plan to produce and deploy. As announced on March 15 by Secretary Hagel, consistent with the February 2010 *Ballistic Missile Defense Review* (BMDR), and assuming a successful return to intercept, we plan to increase our operational GBI fleet from 30 to 44 in 2017 by re-allocating GBIs from the spares and stockpile reliability program. We will reset this program with the procurement of fourteen additional GBIs, two per year, starting in FY 2016. We also request \$135 million in FY 2014 to rebuild a hardened Missile Field 1 critical to achieving the 44-operational-GBI capability.

In FY 2014 we will continue work on the GBI In-Flight Interceptor Communication System (IFCS) Data Terminal (IDT) at Fort Drum, New York, which we will deliver in early FY 2015 and is planned to be operational in 2015. The East Coast IDT will enable

communication with GBIs launched from Fort Greely, Alaska and Vandenberg Air Force Base in California over longer distances and improve defenses for the eastern United States by increasing system performance in specific engagement scenarios.

Pursuant to the FY 2013 National Defense Authorization Act, this year we will begin a siting study for a potential Missile Field in the Continental United States (CONUS). MDA has initiated a CONUS Interceptor Site (CIS) study to evaluate several sites for the potential future deployment of additional GBIs capable of protecting the homeland against threats from nations such as North Korea and Iran. MDA will conduct a siting study this year to inform the President's Budget submission for FY 2015. The Environmental Impact Statement will be completed by the first quarter of FY 2016. These efforts would shorten the time to deploy additional GBIs if a future decision to do so were taken.

We are also improving our homeland defense options with the continued development of the two-stage GBI. The two-stage GBI has less burn time than the three-stage version, which allows it to operate within shorter engagement timelines, and will preserve future deployment options.

To maintain readiness in our network of strategic radars, last year MDA worked with the Air Force to begin upgrading the Early Warning Radar (EWR) at Clear, Alaska to give it a missile defense capability, providing improved ballistic missile defense sensor coverage over the continental United States and reducing sustainment and operating costs. For FY 2014 we are requesting \$51 million to continue this work. Along with the Clear EWR contract award, we also exercised a contract option in FY 2013 to upgrade the Cape Cod EWR. The upgraded Clear EWR will be added to the

BMDs operational baseline in FY 2017, with the upgraded Cape Cod EWR added in FY 2018. MDA plans to transfer the Beale (California), Fylingdales (United Kingdom), and Thule (Greenland) Upgraded Early Warning Radars to the Air Force in the later part of FY 2013 once all three radars are operating with the same software configuration.

This year we are also working with our Japanese partners to deploy a second AN/TPY-2 radar to the U.S. Pacific Command (PACOM) Area of Responsibility to enhance regional defenses and provide more robust sensor coverage for homeland defense.

We are requesting \$44.5 million in FY 2014 for continued Sea Based X-band (SBX) radar operations. For affordability reasons, MDA transferred the SBX to Limited Test Support Status, where the radar continues to support the BMDs test program and remains available for contingency deployment under the operational command of PACOM. We completed the transfer of the SBX vessel to the U.S. Navy Military Sealift Command in FY 2012. New SBX operational software with improved discrimination and debris mitigation was delivered and completed in January 2013. The new SBX configuration will complete integration fielding and testing with GMD in the third quarter of FY 2014.

Regional Defenses

Deployment of regional defenses to protect our deployed forces, allies and international partners remains one of our top priorities. Our FY 2014 budget request funds the continued development and deployment of defenses against SRBMs, MRBMs, and IRBMs in support of Combatant Commanders' near-term and future priorities.

Terminal High Altitude Area Defense – MDA delivered the 50th THAAD interceptor last year, completing the initial interceptor load for the two fielded batteries. With the conclusion of unit collective training, MDA also completed fielding of the second THAAD battery. The U.S. Army's granting of Conditional Materiel Release for the THAAD weapon system made THAAD available for worldwide operational employment. In recent tests we demonstrated THAAD's ability to intercept an MRBM as part of an integrated operational test with PAC-3 and Aegis BMD (FTI-01) and its ability to detect, track, and engage multiple simultaneous targets (FTT-12).

In FY 2013 we are delivering the third THAAD battery to the U.S. Army and initiating soldier new equipment training, which will be completed in FY 2014. MDA will continue to deliver THAAD interceptors to inventory, achieving 82 interceptors by the end of this fiscal year and 98 interceptors by the end of FY 2014. For FY 2014, MDA is requesting \$581 million for THAAD procurement, which includes the purchase of 36 THAAD interceptors and six launchers, and two THAAD Tactical Station Groups for the sixth THAAD Battery. In FY 2014 we expect to deliver the fourth THAAD Battery. Our current plans are to deliver six batteries and, based on Combatant Commanders' desires, we are working with the Army to analyze a requirement for a seventh THAAD Battery within the Future Years Defense Program. We also are requesting \$269 million in RDT&E funding in FY 2014 and \$92 million for THAAD operations and maintenance. We will continue to enhance THAAD's ability to operate through post-intercept debris, enable launch of THAAD's interceptors using sensor data provided by other BMDS sensors, and maintain capability against current and evolving threats.

Aegis Ballistic Missile Defense – Last year we installed the Aegis BMD 3.6 weapon system on three Aegis ships, for a total of 24 Aegis BMD 3.6 ships, and completed two Aegis BMD 4.0 installations. We also commenced two more Aegis BMD 4.0 installs and initiated BMD 5.0 install on the Aegis BMD test ship, the USS JOHN PAUL JONES, which will replace USS LAKE ERIE in that role. This approach supports Navy and MDA testing of the Integrated Air and Missile Defense combat system. We now have a total of 27 certified Aegis BMD ships. This past year we delivered 11 SM-3 Block IAs and two SM-3 Block IBs, both of which were expended in tests. By the end of 2014, up to 39 SM-3 Block IBs will be delivered. With the Japan Ministry of Defense, we continued SM-3 Block IIA system and component Preliminary Design Reviews and awarded a contract to complete SM-3 IIA development.

In May 2012, we conducted a lethal engagement resulting in the successful intercept of a unitary separating target with the second-generation Aegis BMD 4.0 combat weapon system onboard the USS LAKE ERIE and an SM-3 IB guided missile (FTM-16 Event 2a). This test also validated the resolution of the previous flight test issue. In June 2012, we demonstrated again the ability of the SM-3 IB and the Aegis BMD 4.0 combat system to intercept of a separating ballistic missile target (FTM-18). Both intercept tests represented significant accomplishments for the next generation Aegis Weapon System and SM-3 for regional defense and specifically in support of EPAA Phase II. In the integrated FTI-01 BMDS flight test this past October, the USS FITZGERALD successfully engaged a low flying cruise missile over water. The Aegis combat system also tracked an SRBM and launched an SM-3 IA against that threat space. Despite indication of a nominal flight of the SM-3 IA, we did not achieve an

intercept. We have a Failure Review Board currently investigating why this occurred. We have combed through ground test data from all fleet rounds and have not found any rounds with the same ground test results as the SM-3 IA used in FTI-01, which gives us confidence in all deployed SM-3 IAs. This past February, in FTM-20, we successfully intercepted a unitary MRBM target using the SM-3 IA and the Aegis BMD 4.0 weapon system in a remote engagement using data from the Space Tracking and Surveillance System demonstration (STSS-D) satellites. We passed very high quality fire control quality data provided from STSS-D satellites through C2BMC. This was a highly complex test, and it proved the value of an integrated C2 and sensor network and the use of space-based sensors.

This year and next will be busy years for Aegis BMD flight testing as we continue to demonstrate capability of the Aegis BMD 4.0 Weapons System with the Standard Missile Block IB in a series of intercept flight tests -- FTM-19, FTM-21 and FTM-22. We have postponed FTM-19 to improve manufacturing processes and procedures due to previous subcomponent reliability issues. We are now confident we understand these issues to continue with the test program and initial production decisions. FTM-19 is an important step for an All Up Round production decision of the SM-3 IB. Later this fall, in FTM-21, an Aegis BMD ship will demonstrate a salvo fire capability. FTM-22 will demonstrate the IOT&E of the SM-3 IB against a complex MRBM target. These two tests will support a full-rate production decision. Tests of the SM-3 IB against various targets from both ships and our first flight testing from Aegis Ashore continue in FY 2014.

In response to the Combatant Commanders' demand signal for more BMD ships with the latest tested capability, Navy and MDA are jointly executing efforts to upgrade Aegis Destroyers with BMD capability, incorporating Aegis BMD into the Navy's Aegis DDG Modernization Program and new construction of Aegis BMD DDGs. In 2014, two previously installed Aegis BMD ships will be upgraded with the 4.0 weapons system configuration. In addition to the ship upgrades, one non-BMD capable ship is programmed to start the Aegis Modernization Program. Construction of DDG 113, the first Aegis Destroyer built from the keel up with the BMD capability, is well underway. Ships identified for homeport transfer to Rota, Spain will have been upgraded or programmed to receive the BMD installation.

We also continue development of a Sea Based Terminal capability to provide protection of maritime forces against advanced anti-ship ballistic missiles and increased layered defense for forces ashore. Using an incremental development approach, we are incorporating BMD capability into the Navy's SM-6 guided missile and the BMD 5.0 weapon system. We expect to test and certify the first increment of Sea Based Terminal capability in 2015 and 2016.

We are requesting \$937 million in RDT&E funding in FY 2014 to continue the development, testing and, installation of Aegis BMD capabilities to defeat longer range and more sophisticated ballistic missiles launched in larger raid sizes. We also request \$581 million in FY 2014 for the procurement of 52 SM-3 IB guided missiles and \$18 million for operations and maintenance of SM-3 IAs. By the end of FY 2014, we plan to deliver a total of 180 SM-3s, including IA and IB variants.

European Phased Adaptive Approach – We will continue to support the EPAA to provide coverage of European NATO territory from Iranian ballistic missile threats. In 2011 MDA completed Phase 1 of the EPAA to provide coverage of NATO territory in Europe with the deployment of Aegis BMD 3.6 ships with SM-3 IAs and a SPY-1 radar in the Mediterranean, the AN/TPY-2 radar (FBM) to U.S. European Command (EUCOM) in Turkey, and the C2BMC Spiral 6.4 system at Ramstein AFB in Germany. We will continue to invest resources for EPAA development, testing and deployment.

Our goal in EPAA Phase 2 is to provide a robust capability against SRBMs and MRBMs by ensuring the system provides multiple opportunities to engage each threat missile in flight. The architecture includes the deployment of the Aegis BMD 4.0 and 5.0 weapon systems with SM-3 IBs at sea and at an Aegis Ashore site in Romania. In FY 2012 MDA conducted Romania Aegis Ashore planning and environmental studies and began component production necessary for early integration and testing of the Aegis Ashore system by 2015. Aegis Ashore began construction activities in 2012 in Moorestown, New Jersey and construction of a test site in Kauai, Hawaii. We signed an overarching Memorandum of Agreement with the U.S. Navy regarding Operations and Sustainment of the European Aegis Ashore sites. The Aegis Ashore Missile Defense Test Complex at the Pacific Missile Range Facility (PMRF) will support flight testing of Aegis Ashore capabilities in an operational configuration. The complex will be available to conduct the first Aegis Ashore test firing in FY 2014. MDA will initiate construction of the Aegis Ashore site in Deveselu, Romania with the delivery of the deckhouse in FY 2014. The site will be operational by December 2015. MDA requests \$85 million in FY 2014 to continue construction of the Aegis Ashore site in Romania.

In support of EPAA Phase 3, the SM-3 Block IIA, which we are co-developing with the Japanese government and an upgraded version of the Aegis Weapons System are on schedule to be available for deployment in 2018 at Aegis Ashore sites in Romania and Poland and at sea. Deployment of Phase 3 will enhance and expand protection for European NATO countries and U.S. forces through the region from MRBMs and IRBMs from the Middle East. The upgraded Aegis Weapons System combined with the faster, longer reaching SM-3 IIA will provide capability to counter more sophisticated threats when compared to the SM-3 IA and IB and will extend coverage to NATO allies in Europe threatened by longer range ballistic missiles. With the completion of Phase 3, EPAA will provide upper-tier coverage of NATO Europe. As we work closely with Navy in modernization, we will also install the 5.1 Aegis Weapons System on ships for deployment worldwide in support of the Combatant Commanders. We will also install and deploy the 5.1 system in the two Aegis Ashore batteries. This past year we continued development of the Aegis BMD 5.1 fire control system and awarded the SM-3 IIA contract to complete missile development. In FY 2014 we will conduct the first fly-out test of the SM-3 IIA propulsion stack to measure its performance. MDA requests \$308.5 million in RDT&E funding in FY 2014 to continue the bilateral, cooperative effort.

Command, Control, Battle Management, and Communications and Sensors -- We successfully demonstrated this past year our ability to interoperate between NATO's Active Layered Theater Ballistic Missile Defense (ALTBMD) system and C2BMC. The NATO BMD Operations Center (BMDOC) at Ramstein Air Base is NATO's 24/7 command and control center for missile defense. Today, the NATO BMDOC participates in joint exercises with the EUCOM missile and air defense architecture and

is responsible for command and control of the multi-national Patriot units currently deployed in Turkey.

In 2012 we continued to support warfighter operations of the EUCOM BMDS capability for regional defense and executed key warfighter events to demonstrate readiness for defense of Israel by linking the AN/TPY-2 and C2BMC ballistic missile threat tracks to Aegis BMD, THAAD, and Patriot shooters in a distributed environment using operational communications and crews. In partnership with the Combatant Commands, we maintain the capability to engage multiple simultaneous threat attacks in the region. Last year we completed the AN/TPY-2 radar deployment to U.S. Central Command (CENTCOM), where we deployed a C2BMC suite ahead of schedule as well as the Global Engagement Manager (GEM) for control of the AN/TPY-2 radar to enhance regional missile defense.

We request \$300 million in FY 2014 to develop and deploy BMDS sensors, and \$145.8 million to operate and sustain the nine AN/TPY-2 radars and support the UEWRS and Cobra Dane EWR.

We request \$418.4 million in FY 2014 to operate and sustain C2BMC at fielded sites and continue C2BMC program spiral development of software and engineering to incorporate enhanced C2BMC capability into the battle management architecture and promote further interoperability among the BMDS elements, incorporate boost phase tracking, and improve system-level correlation and tracking. We will also continue communications support for the AN/TPY-2 radars and C2BMC upgrades.

We request \$44.9 million for continued operation of the Space Tracking and Surveillance System in FY 2014. In FY 2012, MDA operated STSS demonstration

satellites (STSS-D) around the clock with availability exceeding 95% as well as the Near Field Infrared Experiment (NFIRE) satellite to collect Earth limb phenomenology. We continue to operate the two STSS-D satellites to conduct cooperative tests with other BMDS elements and demonstrate the capability of the satellites against targets of opportunity to provide high precision, real-time tracking of missiles and midcourse objects that enable closing the fire control loops with BMDS interceptors. We conducted a successful intercept of a threat MRBM last February by Aegis BMD system using only STSS-D data to provide launch data for the SM-3 IA guided missile (FTM-20).

The Department of Defense has terminated the Precision Tracking Space System (PTSS). Concurrency in the development schedule and uncertainty in the cost estimates put in doubt long-term fiscal sustainability. Moreover, the PTSS acquisition strategy was high risk. We believe we need to be in space for infrared (IR) discrimination capability, but for now we can address the threat with other land-based sensors in key locations, which will allow us to provide support to the warfighter in the near term and assume less acquisition risk. A study has been initiated to determine how best to support future sensor requirements and we are exploring technologies to improve the capabilities of ground, air, and space sensors.

Developing New Capabilities

We are developing fiscally sustainable advanced BMD technologies that can be integrated into the BMDS to adapt as threats change. Our investments are focused on technology that brings upgradeable capability to the warfighter. For sensors, in the near-term we will integrate and demonstrate electro-optical and infrared sensors using available airborne UAV platforms to create a precision track our shooters can use. . .

For interceptors, our overall strategy includes making near-term investments in interceptor technology that accelerate our ability to use a kill vehicle singularly or in combination in a way that balances our overall approach to solving the very difficult problems of lethal object discrimination, limited inventory and cost per kill. We will also explore other ways to improve the exchange ratio in the missile defense battle.

Last year, we restructured our high power directed energy program and began building the foundation for the next-generation laser system by competing two promising lightweight, highly efficient solid state lasers, one at Lawrence Livermore National Laboratory and the other at MIT Lincoln Laboratory. At MIT Lincoln Laboratory, we built a small-scale prototype of a laser device that exploits a novel technique for combining the output of individual fiber lasers. This year, for the fiber laser, we will team with the Defense Advanced Research Projects Agency to determine the most efficient method of combining laser beams. We will improve the performance of the competing Diode Pumped Alkali Laser System at Lawrence Livermore National Laboratory through a series of laser system upgrades. MDA is requesting \$43.5 million in FY 2014 to demonstrate the efficiency, producibility, and scaling potential of the two candidate lasers.

MDA requests \$77.3 million in FY 2014 to evaluate and research component and sensor technology requirements. Incorporating promising hardware and software from prior programs into our advanced sensor test bed, we will prove the value of emerging discrimination concepts.

Despite the commonality of their mission and functions, components on the current midcourse phase interceptors, the GBI and SM-3 kill vehicles, were developed

independently at a substantial cost over the past decade. We are looking at the benefits of developing common kill vehicle technology for the GBI and SM-3 variants, focusing in particular on the ability to address future technology advancements through the development of a similar set of components, subsystems, and software. This common kill vehicle technology effort initially will perform risk reduction and examine other technologies that may improve future interceptor capabilities. . This effort is in keeping with the plan for the next generation exo-atmospheric kill vehicle, as directed by Section 225 of the FY 2013 National Defense Authorization Act.

Given changes in the assessment of the threat from North Korea to the U.S. homeland, as well as delays in the potential deployment of any SM-3 IIB interceptor resulting from delayed technology development due to budget reductions, the Department is evaluating alternatives to hedge against future threat technology advancements. The Department is no longer planning for the SM-3 IIB program and does not request funding for the program in FY 2014. In addition to the cuts imposed in the FY 2012 Appropriation and FY 2013 funding, analyses show a larger missile would be required to achieve the necessary burn out velocity, and a larger missile design would have taken additional time and resources, pushing the initial operational capability out past 2022. Our near-to-mid-term focus for homeland defense will be to increase GMD capability, to include increasing deployed GBIs from 30 to 44, investing in Common Kill Vehicle technology, and conducting siting and EIS studies for a new U.S. GBI missile field.

MDA requests \$19.2 million in FY 2014 to continue partnerships with industry and universities to seek innovative concepts in sensors, weapons, and advanced

algorithms. We will leverage University-to-University International Research opportunities with allied nations to enhance Advanced Technology initiatives and build stronger relationships with our international partners and NATO allies.

International Cooperation

MDA is engaged either bilaterally or multilaterally with nearly two dozen countries and international organizations, such as NATO and the Gulf Cooperation Council.

In Asia-Pacific, the United States and Japan are working together to support the deployment of the second U.S. forward-based AN/TPY-2 radar. In addition, we continue to develop collaboratively the SM-3 IIA to enable U.S. and Japanese Aegis BMD ships to engage MRBMs and IRBMs and, when coupled with the upgraded Aegis BMD weapon system, more sophisticated ballistic missile threats. This year we signed a Second Amendment to the formal joint agreement with Japan administering the SM-3 Block IIA Cooperative Development (SCD) effort. The amendment will reduce risk in the SCD program by adding flight tests and sufficient time in the schedule for additional engineering analysis between flight tests.

This budget continues MDA's longstanding commitment in support of Israeli defensive efforts. MDA is working with the Israel Missile Defense Organization (IMDO) to deliver Iron Dome batteries and interceptors. Iron Dome has had significant success protecting the Israeli population against short-range rockets and large artillery shells. MDA has been working closely with U.S. Department of Defense leadership to ensure U.S. funding for Iron Dome is being used effectively to produce additional Iron Dome batteries and interceptors. Any further U.S. contributions on Iron Dome will be governed by a formal international agreement. MDA is actively seeking Iron Dome co-

production opportunities for U.S. defense industry. We are negotiating to obtain available technical data packages and data rights should there be a future U.S. defense requirement for this weapon system.

We are also developing missile defense systems with Israel to address regional ballistic missile threats. The David's Sling Weapon System is designed to defeat SRBM threats. IMDO and MDA completed the first phase of the development of David's Sling last November with a successful intercept test. MDA and Israel also are co-developing the Arrow-3 Upper Tier interceptor. The advanced design of this interceptor was successfully tested this past February in a non-intercept test; a second fly-out test is scheduled for FY 2014. MDA also participated in Austere Challenge 2012 exercises, which successfully demonstrated the concept of operations for the U.S.-Israel BMD architecture and future interoperability.

Elsewhere in the Middle East, U.S. BMD capabilities continue to expand in defense of forward-deployed U.S. armed forces, allies, and partners. Major MDA activities in the Middle East involve relationships with regional partners expressing interest in procuring U.S. systems. Last year, MDA was officially designated as a Foreign Military Sales (FMS) Implementing Agency for THAAD and the AN/TPY-2 radar. In addition to our current \$3.5B FMS case with the United Arab Emirates, we are engaged with several other potential FMS customers for these very capable systems.

In Europe, aside from EPAA planning and fielding, MDA maintains active bilateral relationships with our close allies in that region.

Conclusion

Mr. Chairman, when I arrived at the Missile Defense Agency last November I was impressed with the organization and the dedication and professionalism of the government and contractor workforce. The Agency is settling into the post-BRAC configuration, which we completed in FY 2011. This has been a challenging period for our personnel, but we have stayed focused on our core mission. I am proud to lead the people behind today's missile defense program. They are highly motivated and the very best in the world at what they do.

The impact of the sequestration on the program and workforce is significant. We will see limitations in our ability to deliver future homeland defense capabilities. To mitigate some of the effects of sequestration cuts, I will be working with the Department to submit an Above Threshold Reprogramming request as part of the Department's larger request this year.

Whatever happens, I am dedicated to executing successful GMD intercept flight tests over the coming year and will continue to strive to ensure reliability in our operational homeland defenses. We have made good progress in our work with our international partners, and I want to continue those important efforts. We will continue our work with the warfighter to develop, test, and field a networked, global BMD system that is flexible, survivable, and affordable. We will work on ways to cut sustainment costs, reduce high-risk acquisition concurrency, improve system reliability, and deliver capabilities as promised. And, mindful that today's security environment is unlikely to mirror that of tomorrow, we will continue to invest in promising and potentially game-

changing technology programs to ensure the BMDS will be capable of defeating the complex threats we expect to face in the future.

I look forward to answering the committee's questions. Thank you.



United States Navy Biography

Vice Admiral James D. Syring Director, Missile Defense Agency

Vice Adm. Syring is from Muncie, Ind. A 1985 graduate of the United States Naval Academy with a Bachelor of Science degree in Marine Engineering, he received his commission as an ensign. Subsequent to commissioning, he was designated an engineering duty officer. In 1992, Syring earned his Master of Science degree in Mechanical Engineering from the Naval Post Graduate School.

Ashore, Syring served in numerous engineering duty officer assignments including: ship superintendent for USS *Port Royal* (CG 73); Aegis test officer for new construction DDG 51 class ships; combat systems, test and trials officer in the DDG 51 Aegis Shipbuilding Program Office; Combat Systems Baseline manager in the Aegis Technical Division; director for Surface Combatants, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition). Syring served as the technical director for the U.S. Navy's DDG 1000 Shipbuilding Program and followed that tour as the DDG 1000 major program manager.



Upon selection to flag rank in 2010, Syring served as the program executive officer for Integrated Warfare Systems, responsible for acquiring, developing, delivering and sustaining integrated weapons systems for ships, submarines, carriers and aircraft within the Fleet and Joint Force.

Syring is the director for the Missile Defense Agency (MDA), Office of the Secretary of Defense, Pentagon, Washington, D.C. In this capacity, he oversees MDA's worldwide mission to develop a capability to defend deployed forces, the United States, allies, and friends against ballistic missile attack.

Syring's personal awards include the Distinguished Service medal, Legion of Merit (2 awards), the Meritorious Service medal (4 awards), Navy and Marine Corps Commendation medal, and Navy and Marine Corps Achievement medal.

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COMMITTEE ON ARMED SERVICES
U.S. HOUSE OF REPRESENTATIVES**

STATEMENT

BY

J. MICHAEL GILMORE

DIRECTOR, OPERATIONAL TEST AND EVALUATION

OFFICE OF THE SECRETARY OF DEFENSE

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

STRATEGIC FORCES SUBCOMMITTEE

**NOT FOR PUBLIC RELEASE
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COMMITTEE ON ARMED SERVICES
U.S. HOUSE OF REPRESENTATIVES
HASC – MAY 8, 2013**

J. Michael Gilmore
Director, Operational Test and Evaluation (DOT&E)
Office of the Secretary of Defense

Chairman Rogers, Congressman Cooper, distinguished Members of the Committee, thank you for the opportunity to discuss missile defense test planning, processes, and programs, including my assessment of the Ballistic Missile Defense System, or BMDS.

Over the last year, Aegis Ballistic Missile Defense (BMD), Patriot, and Terminal High-Altitude Area Defense (THAAD) each demonstrated additional progress toward Short-Range Ballistic Missile (SRBM) threat class capability, even though Aegis BMD suffered a Standard Missile-3 Block IA interceptor failure during a flight test late in the year. For the first time, THAAD demonstrated progress toward Medium-Range Ballistic Missile (MRBM) threat class capability when it successfully destroyed a medium-range air-launched target. Ground-based Midcourse Defense (GMD) did not conduct any intercept flight testing during the period and did not demonstrate progress toward Intermediate-Range Ballistic Missile (IRBM) or Intercontinental Ballistic Missile (ICBM) threat class capability. However, GMD did conduct an interceptor only flight test in January 2013 as part of its return to intercept effort. That test demonstrated the potential for selected design changes made to the Capability Enhancement II kill vehicle to correct problems that caused previous test failures. Command, Control, Battle Management, and Communications (C2BMC)

demonstrated the capability to control two operationally-deployed AN/TPY-2 radars in Forward-Based Mode (FBM), using operational communications architectures; personnel; and tactics, techniques, and procedures.

The Missile Defense Agency (MDA) element flight testing included three Aegis BMD intercept tests and one THAAD operational flight test. U.S. Army testing of Patriot was more extensive, including an operational test that was conducted from May 2012 to January 2013. Aegis BMD completed the first two successful intercepts of SRBM targets by the new Standard Missile-3 Block 1B interceptor using software build 4.0.1. In February 2013, Aegis BMD conducted the first engagement using remote data from the Space Tracking and Surveillance System. THAAD successfully completed its Initial Operational Test and Evaluation (IOT&E) by simultaneously destroying a foreign military acquisition SRBM and an MDA-developed target with MRBM characteristics flying a short-range trajectory. Patriot successfully completed five different intercept flight tests against SRBMs using a variety of Patriot interceptors including the new Missile Segment Enhancement interceptor under development. Patriot also conducted intercept flight testing during the period for a Foreign Military Sales customer. In addition, the MDA continued its ground test program.

Significant to a system-level characterization of the BMDS, the MDA conducted the first flight test of a regional BMD system. This test included Aegis BMD, Patriot, and THAAD, as well as C2BMC and an AN/TPY-2 (FBM), which comprised the most complex BMD flight test ever attempted in the history of the

DoD. Conceived as a risk reduction test for future operational tests, Flight Test Integrated-01 (FTI-01) included basic system-level integration, but not true layered defense, as the test was designed such that the weapon elements could only engage their intended targets. Because of this, the weapon elements basically operated independently of one another. Nevertheless, the Space-Based Infrared System/Defense Support Program participated in this test and the elements exchanged track data with each other and received acquisition cues from the AN/TPY-2 (FBM) radar via C2BMC. The test design featured near-simultaneous Aegis BMD and THAAD intercepts, a THAAD first-time engagement of an MRBM, a Patriot engagement of an SRBM in the presence of upper-tier post-intercept debris, and Aegis BMD and Patriot defending against cruise missile attacks. While the Standard Missile-3 Block IA interceptor missed its target, the Standard Missile-2 and the three other interceptors achieved successful intercepts. Soldiers performed command and control functions from the Air and Space Operations Center at Hickam Air Force Base, Hawaii. In FTI-01, for the first time, three missile defense weapon elements and an external sensor operated in the same theater engaging a small raid of ballistic missiles and air-breathing targets.

Since Flight Test Standard Missile (FTM)-15 in April 2011, Aegis BMD has experienced one test anomaly and two flight test failures. During FTM-15, the Standard Missile-3 Block IA Third Stage Rocket Motor experienced a failure in a critical component, leading to unexpected behavior just prior to achieving a successful intercept. The faulty component, common to both the IA and IB

interceptors, was subsequently redesigned and flown successfully in FTM-18. During FTM-16 Event 2 in September 2011, a catastrophic failure of the Third Stage Rocket Motor resulted in a failure to intercept. The MDA determined the cause to be an issue with one of the firing parameters and made the necessary software modifications to mitigate the issue. Subsequently, the MDA conducted numerous ground firings of the Third Stage Rocket Motor to verify that it now functions properly and it intends to use the newly-adjusted firing parameter in FTM-19 in May of this year. This was also an issue common to both the IA and IB interceptors. Finally, the MDA is still investigating the cause of the Standard Missile-3 Block IA interceptor failure to intercept during FTI-01.

The test program for Fiscal Year/Calendar Year 2012 was adequate to support the development of the regional BMDS. The need to determine root cause of the FTG-06a failure, as well as develop, analyze, and perform ground tests of the means to correct the failure precluded GMD intercept flight testing during 2012. The MDA conducted tests as planned in the IMTP, Versions 11.2, 12.1, and 12.2 approved by the MDA Director and myself in August 2011, March 2012, and June 2012 respectively. However, except for the THAAD IOT&E, all key flight tests scheduled in IMTP 11.2 moved to later calendar quarters in IMTP 12.1, frequently a full year or more later. All of these changes except one were primarily the result of previous flight test failures and the ensuing investigations that required laboratory and ground testing, hardware corrections, and software changes. The exception was the MDA changing the first operational test of the

BMDS into FTI-01 as a risk reduction test with the operational test re-inserted in the schedule a year later.

The test frequency across all of the BMDS elements remains consistent in the recently approved IMTP version 13.1 as compared with the earlier 12.2 version. For GMD, the MDA maintained the flight test frequency, averaging one flight test per year, a test pace that allows sufficient time to analyze the terabytes of data generated during GMD flight tests. Flight Test Ground-based Interceptor-07 (FTG-07) is planned for later this year, real-world events permitting, and will be flown using the failed intercept FTG-06a profile and a Capability Enhancement-I Exoatmospheric Kill Vehicle with an Aegis BMD forward sensor providing a tracking cue through C2BMC. This will be the second of three risk reduction flights for the GMD return to intercept. FTG-06b is being planned for late this calendar year and will complete the GMD return to intercept plan. The MDA will conduct their first engagement of an ICBM, with the target flying a range of greater than 5,500 kilometers, in FY15. This will also be the first GMD salvo test of two interceptors fired at a single target. The MDA will conduct a multiple simultaneous engagement of two interceptors on two targets in FY18.

In the case of Aegis BMD 3.6.1 and THAAD, sufficient data now exist to calculate quantitative estimates of the probability of engagement success for the tested battlespace (which is less than the full intended battlespace) of the two weapon systems. The probability of engagement success estimates for these two weapon systems are included in my classified 2012 Assessment of the BMDS.

Many of the models and simulations used in the ground tests are still not accredited for performance assessment, thereby limiting quantitative assessments based on their results. Some portions of the battlespace where data are lacking cannot be assessed. Examples include high closing velocity associated with longer range targets for Aegis BMD, salvo intercept time spacing for GMD since it has not yet attempted a salvo launch, and launch on remote track for THAAD. My office and MDA are working to assure the Integrated Master Test Plan (IMTP) supports BMDS modeling and simulation by providing the test data required for rigorous verification, validation, and accreditation (VV&A). However, model and simulation VV&A to support comprehensive quantitative performance assessments will, in many instances, require several more years to complete.

My comments to this committee during my testimony of the last four years, regarding the IMTP development process, remain accurate. The Director of MDA, Vice Admiral Syring, has continued to pursue a rigorous IMTP development process that has produced a rigorous and well-justified set of tests. My office continues to be involved throughout the semi-annual review and revision process leading to each update of the IMTP. This process has worked well during the preparation of the seven previous plans, including the most recent IMTP (version 13.1), that I approved jointly with Admiral Syring in March. The process has enabled each version of the IMTP to be revised in a timely manner consistent with policy changes, flight test results (including unsuccessful intercepts) such as those I have mentioned previously, or, changes in budgetary

resources. The current IMTP is a rigorous plan for obtaining the test information needed to assess BMDS performance quantitatively.

However, as I noted in my previous testimony, the IMTP continues to be success-oriented. The rigorous testing incorporated in the IMTP will inevitably lead to flight test failures. These failures, although often perceived as setbacks, provide information that is absolutely critical to assuring that our ballistic missile defenses will work under realistic and stressing conditions. The IMTP does not, however, include plans for backup or repeat tests that would be needed in the event of flight test mission failures. Therefore, the effects of unsuccessful tests, such as the earlier FTG-06a and FTM-16 Event 2 failures, need to be mitigated through future updates of the IMTP. Thus far, the semi-annual revision process has allowed flexibility in making the necessary adjustments when needed.

Conclusion

The ability to conduct comprehensive quantitative assessments of BMDS capability across the full battlespace for each of the elements is still a number of years away. However, BMDS testing has now produced sufficient data to enable a quantitative assessment of capability for both THAAD and the currently fielded Aegis BMD system covering the limited portions of their tested battlespace. Executing the planned testing in the IMTP will enable the collection of data needed to ultimately validate the models and simulations required to perform those assessments and to demonstrate capability across the full battlespace.



J. Michael Gilmore

Director of Operational Test and Evaluation



Dr. J. Michael Gilmore was sworn in as Director of Operational Test and Evaluation on September 23, 2009. A Presidential appointee confirmed by the United States Senate, he serves as the senior advisor to the Secretary of Defense on operational and live fire test and evaluation of Department of Defense weapon systems.

Prior to his current appointment, Dr. Gilmore was the Assistant Director for National Security at the Congressional Budget Office (CBO). In this position, he was responsible for CBO's National Security Division, which performs analyses of major policy and program issues in national defense, international affairs, and veterans' affairs. Specific areas of investigation included the long-term implications of current defense policies and programs, the implications of transformation for equipping and operating U.S. military forces, the effectiveness and costs of alternative approaches to modernizing U.S. military forces, and the resource demands associated with operating and supporting U.S. military forces.



Dr. Gilmore is a former Deputy Director of General Purpose Programs within the Office of the Secretary of Defense, Program Analysis and Evaluation (OSD(PA&E)). As the Deputy Director, he was responsible for developing, formulating, and implementing Secretary of Defense policies on all aspects of Department of Defense general purpose programs, including analyzing the operational effectiveness and costs of U.S. conventional military forces and supporting programs. Before serving as a Deputy Director, Dr. Gilmore served as the Division Director of Operations Analysis and Procurement Planning, within the Office of the Deputy Director, Resource Analysis and prior to that as an Analyst for Strategic Defensive and Space Programs Division, Office of the Deputy Director, Strategic and Space Programs. Dr. Gilmore's service with Program Analysis and Evaluation covered 11 years.

Early in his career, Dr. Gilmore worked at the Lawrence Livermore National Laboratory, Livermore, California performing research in their magnetic fusion energy program. He has also worked as an Analyst with the Falcon Associates, McLean, VA, and the McDonnell Douglas Washington Studies and Analysis Group, where he became Manager, Electronic Systems Company Analysis.

A native of Ohio and resident of Virginia, Dr. Gilmore is a graduate of The Massachusetts Institute of Technology, Cambridge, Massachusetts, where he earned a B.S. in Physics. He subsequently earned a M.S. and Ph.D. in Nuclear Engineering from the University of Wisconsin, Madison, Wisconsin.

DOCUMENTS SUBMITTED FOR THE RECORD

MAY 8, 2013

MICHAEL R. TURNER
TENTH DISTRICT, OHIO

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CHAIRMAN
SUBCOMMITTEE ON
TACTICAL AIR AND LAND FORCES
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April 17, 2013

President Barack Obama
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Mr. President:

Once again, you and your Administration have offered up America's missile defense shield as a bargaining chip. Just this weekend, Secretary of State John Kerry flew to China and offered to remove our recently added defenses in the Pacific to encourage them to counter the increasingly belligerent tone and actions by North Korea. This is the same failed strategy that your Administration offered up to the Russians in exchange for reining in Iran. If it failed to work then, how could it possibly work now?

At a time when our missile defense system is the only defense that we have to the threat from North Korea, and the emerging threats from Iran, I am greatly concerned that your missile defense strategy is languishing, resulting in increased risk to the United States, increased cost to the taxpayer and needless alienation of our allies. Our enemies around the world have sought nuclear weapons and missile technology, yet your Administration has consistently reduced missile defense funding, abandoned previous Bush Administration strategies that sought to respond to these emerging threats and has compromised the implementation of missile defense programs, while seeking elusive Russian approval of the right of the United States to defend itself.

Your Administration has most recently abandoned your own missile defense strategy, known as the Phased Adaptive Approach, in favor of a stopgap measure of finally placing the additional ground-based missiles in Alaska that you had previously cancelled. Although I welcome the Administration finally completing the missile field which you attempted to close, this has me even more concerned that your Administration has no plan to reasonably respond to the real and foreseeable threats from North Korea and Iran.

Unproven Technologies

From your initial announcement of the Phased Adaptive Approach, I was gravely concerned that your new missile defense strategy relied upon unproven technologies. The SM3-2B missile, which still does not exist and upon which you based defense of the United States in 2020, was acknowledged by then-Sen. Joseph Lieberman (D-CT) as a "paper system." Initial analysis today suggests that the SM3-2B will not be available within the time period you specified and that the missile would be unsuitable for the defense of the continental United States. The previous U.S. missile defense strategy relied upon proven technologies. Your shift to unproven technologies greatly increased the cost and risk associated with responding to emerging threats and has resulted in needless delay.

Abandoning our Allies

In addition to placing the United States at greater risk, your haphazard approach to a missile defense

strategy has significantly alienated the United States' European allies. Your Administration's abrupt cancellation of the Bush Administration missile defense commitments, and now the abrupt cancellation of your own missile defense commitments, have left our allies abandoned in the face of domestic criticism and Russian opposition. Our relationship with the Polish government has yet to fully recover from the affront of abruptly abandoning the missile defense commitments to that key ally. I am concerned that your Administration may repeat the same relationship-straining affront with our Romanian allies.

When your Administration clumsily rolled out the abandonment of the Bush Administration's planned Third Site, many voiced concern that your Administration did not value the importance of a commitment made by the United States. Your Administration responded that commitments made by the United States could still be relied upon; insisting that the Bush plan was the wrong plan. Now we have the Obama Administration having walked away from the missile defense commitments of the Obama Administration. I am concerned that your Administration may have made it more difficult to obtain future cooperation for important missile defense deployment and implementation.

Using our Nation's Security as a Gambling Chip

Your Administration has repeatedly downplayed the emerging threats from Iran and North Korea. In adopting the Phased Adaptive Approach, your Administration publicly stated that the potential ICBM threat from North Korea and Iran would not arrive until 2020, providing ample time for the invention of an SM3-2B missile. The intelligence community has never walked away from its initial public assessment that North Korea and/or Iran could represent a threat to the continental United States from ICBM attack as early as 2015, and possibly sooner. Not surprisingly, new unclassified estimates indicate that today the United States may be at risk from such an attack, contrary to your Administration's assertion that the threat is "slow to emerge."

Your Administration's policy was viewed as a gamble then and the American people should not be shocked that your Administration has now admitted as much. Dr. James Miller, Undersecretary for Defense Policy, recently stated on behalf of your Administration, "I think it was – at the time, based on the intelligence assessment that we had, it was a good bet." A bet? No Administration should be gambling with our national security. I am concerned that your administration does not recognize that we have no margin of error in responding to the potential threats of a nuclear and ICBM armed North Korea and Iran.

Underfunding of Missile Defense

Your Administration has consistently underfunded missile defense. While using the pursuit of the unproven technologies of the Phased Adaptive Approach as an excuse to underfund Ground Based Missile Defense, your Administration also underfunded the Phased Adaptive Approach. The House of Representatives has consistently sought to add funding to the missile defense programs, while your Administration and the Democrat-controlled Senate have repeatedly cut and reduced funding. As a result of this underfunding, these programs will now experience exorbitant cost increases to implement the Bush Administration's missile defense strategy in Alaska that you had previously abandoned.

Russian and Chinese Approval of Defense of the Homeland

In abandoning proven technologies to protect the homeland and in abandoning our allies, your Administration routinely cites its attempts to achieve an agreement with the Russians concerning United States missile defense. Our missile defense systems or policies should not be used as bargaining chips in pursuit of an elusive Russia reset policy. In addition, our ability to protect ourselves from the emerging threats of North Korea and Iran should not be subject to Russian approval. This policy has failed to engage Russia and has failed to dissuade Iran. So why is your Administration now repeating a failed policy initiative by offering to China the same deal in trying to dissuade North Korea?

No Quid Pro Quo

Although your Administration claims to be pursuing negotiations with the Russians concerning missile defense, no apparent achievements on behalf of the United States are evident. However, Russian demands appear to be winning. Frequently, the Administration states that you did not receive any quid pro quo for abandoning the Bush Administration's Ground Based Missile Defense site intended for Poland. I agree, since your Administration appears to have received no concessions from the Russians for abandoning the Polish site. Of concern is that, similarly, your Administration appears not to have received any concessions from the Russians for the announcement that Phase Four of the Phased Adaptive Approach has been abandoned. So far, your Administration has abandoned both the Bush plan and the Obama plan for forward-basing missile defense architecture intended for the protection of the United States. And yet, your Administration continues to negotiate with the Russians and now has added the Chinese. I am greatly concerned that the United States interests are not being served by your Administration continuing these unproductive and poorly executed negotiations that will significantly reduce our missile defense capability. I ask that you immediately inform Congress of the substance of your offers to the Russians and the Chinese to abandon and weaken our missile defense systems.

A Failed Strategy

Mr. President, your recent announcement to abandon Phase 4 of the Phased Adaptive Approach leaves the United States without an articulated missile defense strategy. This deficiency is compounded by the effects of the Administration's clumsy handling of our relationship with our NATO allies. I ask you to address the damage done to our relationships with our NATO allies as a result of your Administration's failed missile defense strategies.

In addition, I am concerned that the Administration's failure to recognize the significance of the emerging threats from North Korea and Iran places the United States at risk. I ask that you immediately inform Congress of the effects of the abandoned and failed Phased Adaptive Approach and of your plan to complete the Bush Administration's Alaska missile defense strategy. Further, since completion of the Alaska Missile Field alone is insufficient for full protection of the United States, I am calling upon you to support the site selection and completion of an East Coast Missile Field to complement the Alaska site.

Mr. President, the world is not becoming a safer place. Offering to weaken our defenses in hopes of irrational nations suspending their weapons programs is not an effective security strategy. Simply put – these offers are of greater benefit to our adversaries and to the detriment of the American people.

Sincerely,



Michael R. Turner
Member of Congress

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MAY 8, 2013

QUESTIONS SUBMITTED BY MR. ROGERS

Mr. ROGERS. 1) The Committee has received briefings that indicate that one of only two SDACS (Solid Divert and Attitude Control System) suppliers is scheduled to complete all contracted design and development DACS work by the end of Fiscal Year 2013 and, without near-term action, will no longer have work to retain its experienced engineering team. Is this a concern of the Agency and, if so, is the Agency prepared to take actions during the remainder of FY13 to preclude the disbandment of this team?

Admiral SYRING. Yes. The Agency is funding both Alliant Techsystems and Aerojet in Fiscal Year 2013. Alliant Techsystems is investigating and maturing lightweight, long-mission duration SDACS technology. Aerojet is developing more capable SDACS for the SM-3 IB and SM-3 IIA development programs.

Mr. ROGERS. 2) Following testimony before this committee in 2012, report language was included in the FY2013 House NDAA report regarding concerns over the absence of competition in the design and production of key missile defense technologies to include SM-3 Divert and Attitude Control Systems, which were specifically cited in the language. Included in the report was a requirement for the MDA Director to provide a report that detailed the risk associated with relying on a single supplier for critical technologies and Agency plans for how it intended to deal with those risks. What is the status of that report and would you please discuss the risks associated with relying on a single supplier for technologies such as DACS?

Admiral SYRING. The report is in internal review, and is anticipated to be delivered by August 30, 2013. Risk can be defined in terms of consequence of occurrence and likelihood of occurrence. The consequence of having a single supplier is that if the supplier should go out of business, we might not have a timely source for a critical component or subsystem. That would be severe. The likelihood of that occurring, especially for DACS, is remote.

Mr. ROGERS. 3) Do you believe SM-3 missiles deployed in CONUS have the performance capabilities to defend the United States from ballistic missiles launched by Iran?

Also, please provide illustrations of the SM-3 capability engagement windows of SM-3 IA and IB missiles if deployed on Aegis Navy ships at suitable ship stations along the East Coast along the United States.

Admiral SYRING. The Missile Defense Agency (MDA) is prepared to respond to this question, but access to the information is protected by higher program security classification restrictions. MDA is currently working with the responsible department to enable access to this information.

Mr. ROGERS. 4) How important is it that we improve the kill assessment capability of the ground-based midcourse defense system? Are you, the commander of NORTHCOM, and the commander of STRATCOM close to an agreement on the way ahead to improve that capability? How feasible is it to leverage current capabilities? To what extent are new capabilities required? Is it feasible that the U.S. could significantly enhance this capability by the end of the decade?

Admiral SYRING. Improving kill assessment or post-intercept assessment can provide reliable, trustworthy and sufficient evidence which could influence warfighting considerations during an engagement and enable the warfighter to conserve GMD interceptor inventory. Confidence in post-intercept assessment could enable the warfighter to stop subsequent intercepts, change the number of interceptors allocated to later intercepts, change the targeting and timing of interceptors and perform consequence of intercept mitigation.

We are making good progress and the assessments on how "close" we are will flow from discussions over the next two to three months. The Missile Defense Agency and NORTHCOM, through the Shot Management Assessment Cell, are conducting a joint analysis of post-intercept assessment options to assess performance of concepts singly or in combination with other options. The options selected will be incorporated into the BMDS Vision that is a future capabilities product being developed at the request of STRATCOM.

Leveraging current capabilities is conceptually feasible and this assessment is part of the near-term options review. The post-intercept assessment study evaluates

the performance of options singly or in combination with other options in the near, mid, and far term. The performance of the individual concepts will be assessed against cost to determine which post-intercept options provide the most cost-effective capability. The study will evaluate existing and new capabilities to determine the needed mix in order to accomplish post-intercept assessment.

It is feasible that the U.S. could enhance this capability by the end of the decade. The post-intercept assessment study will examine near-, mid-, and far-term options to provide a post-intercept assessment capability.

Mr. ROGERS. 5) Were you satisfied that we had sufficient missiles available to the PACOM commander during the escalation in tensions and the threat of medium-range rocket launches by the North Korean regime? I am concerned that too many missiles were either at stockpiles at home, or in other theaters. What can be done to better allocate these resources?

Admiral SYRING. The Missile Defense Agency (MDA) supports the Joint Staff, the Services, and the Combatant Commanders through participation in the Warfighter Involvement Process. This process allows the warfighter to establish priorities for equipment and capabilities, and MDA satisfies those priorities within budget and schedule constraints. The final program plan is adjudicated by the Missile Defense Executive Board where all stakeholders are represented. This process ensures that maximum capability is provided within resources available.

The question of "sufficient missiles available to the PACOM commander" is better answered by U.S. Pacific Command.

Mr. ROGERS. 6) Can you help me understand how the budget request supports technology development to build on the efforts of the Phantom Eye, DPALS, the Army's HELMD, the Navy's LaWS, to deploy missile defenses capable of engaging enemy missiles as the Airborne Laser proved is possible?

Admiral SYRING. The Missile Defense Agency's (MDA) FY 2014 budget request preserves the investments made in directed energy by firmly supporting the technology development required to demonstrate next-generation, multimission directed energy systems. MDA's key investments include: high-energy, high-brightness electric lasers, high-altitude/low-Mach platform characterization, high-altitude atmospheric characterization, and directed energy system concept definition.

Specifically, we will continue to fund Phantom Eye flights, diode pumped alkali laser system (DPALS) progression, as well as fiber combined laser (FCL) technology joint development with the Defense Advanced Research Projects Agency (DARPA). Phantom Eye is scheduled to perform a series of flights to record platform conditions at high-altitude/low-Mach to inform the design and packaging of high-powered laser payloads. We will characterize optical jitter at high altitudes using either the Phantom Eye or another high-altitude unmanned aerial vehicle. We will continue DPALS development to improve operability and performance. We will also continue FCL work with DARPA using fiber amplifiers procured by both Agencies to demonstrate increased laser power, multiple combining techniques and the ability to combine the large number of fiber lasers to achieve 100's of kilowatts at near-perfect beam quality.

The MDA continues to collaborate with the Services and other agencies. As we develop higher power, more compact lasers, they benefit everyone in the directed energy community, including the Army's High Energy Laser Mobile Demonstrator and the Navy's Laser Weapon System. Similarly, we benefit from the technology developed under these and other DOD laser programs.

Mr. ROGERS. 7) As you know, the United States has had no boost phase missile defense program since approximately 2009, when the Obama Administration terminated the Airborne Laser and the Kinetic Energy Interceptor. To be certain, there were technology and cost challenges with both systems, but there were also successes by both development programs.

Sir, aren't there obvious advantages to engaging a missile in this phase of flight, such as precountermeasure and decoy release? Shouldn't we take a look at what options are possible for boost phase missile defense?

Admiral SYRING. There are at least three advantages to boost phase intercept. Conceptually, it puts pressure on adversary payload deployment timelines, thins out attacks, and denies unimpeded access into midcourse with complex countermeasures. Boost phase intercept thereby improves the effectiveness of the midcourse intercept layer.

- Evolving adversary capabilities have made effective and affordable boost phase intercept more challenging than when the airborne laser and kinetic energy interceptor were conceived. Longer range adversary ballistic missiles launched from deep inside adversary territory increase the boost phase engagement range required for intercept. They also increase the defensive standoff range outside an adversary's territory.

Three technology advances potentially offer new opportunities for effective and affordable boost phase intercept, if these technologies can be successfully demonstrated through laboratory experimentation, proof-of-concept demos, and prototyping phases.

- First, high-efficiency, electric-powered, shorter wavelength lasers that could be small and light enough to fit on high-altitude unmanned air vehicles (UAVs)
- Second, a new generation of hydrogen-fueled UAVs which could provide multiday endurance at high altitude (65,000 ft) above clouds and atmospheric turbulence
- Third, new designs for very small, light kill vehicles which could enable much smaller and lighter interceptors capable of high velocities required for kinetic energy boost phase

The Missile Defense Agency FY 2014 budget request includes funding to advance technologies in all three areas: two short wavelength electric lasers are being scaled up in the laboratory from kilowatts to tens of kilowatts; measurements of vibrations and high-altitude turbulence and optical propagation are planned, using existing high-altitude UAVs. Last, advanced component technologies to enable small, light kill vehicles will be demonstrated.

QUESTIONS SUBMITTED BY MR. COOPER

Mr. COOPER. 8) General Dempsey testified before our committee that DOD was considering the deployment of Aegis ships for missile defense purposes to defend the East Coast as one of the options being considered. Is this in fact the plan, as stated by General Dempsey? Or is DOD only considering a missile defense site with ground-based interceptors? Is Aegis Ashore being considered? Why/why not?

Secretary CREEDON. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 9) Secretary Kerry stated in April during a trip to Japan that “Obviously if the threat disappears—i.e. North Korea denuclearizes—the same imperative does not exist at that point of time for us to have that kind of robust forward leaning posture of defense . . . And it would be our hope in the long run, or better yet in short run, that we can address that.” He also added speaking in Tokyo that President Barack Obama “deployed some additional missile defense capability precisely because of the threat of North Korea. And it is logical that if the threat of North Korea disappears because the peninsula denuclearizes, then obviously the threat no longer mandates that kind of posture” but that “there have been no agreements, no discussions; there’s nothing actually on the table with respect to that.” In response to these statements, HASC Republican members sent a letter to the President, arguing that the Obama administration has once again “offered up America’s missile defense as a bargaining chip.”

- Are there plans to reduce the missile defense posture and deployed forces in Asia?
- Do you anticipate some missile defense forces would have to be moved? Under what circumstances?

Secretary CREEDON. The U.S. approach to regional missile defense has not changed: we will continue to adapt our missile defenses to address the current and emerging threat. As the threat changes, so will our posture.

The United States has no plans to reduce U.S. missile defense posture in the Asia/Pacific region at this time. U.S. policy on missile defense emphasizes the need for flexibility in U.S. missile defense plans and capabilities in response to evolving ballistic missile threats. Highly adaptable and relocatable missile defense assets represent the most prudent option for defending U.S. interests, allies, and partners across multiple regions in times of crisis or conflict.

Mr. COOPER. 10) What analysis underpins the decision to deploy an additional 14 interceptors? Specifically how did we arrive at the 14 number?

Secretary CREEDON. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 11) In a 1999 National Intelligence Estimate, the U.S. National Intelligence Council stated: “We assess that countries developing ballistic missiles,” including North Korea and Iran, “would also develop various responses to U.S. theatre and national defenses . . . by the time they flight test their missiles.”

Is that still the current assumption underpinning the response to the threat and being factored into missile defense tests to ensure that our missile defense system keeps ahead of the threat?

Secretary CREEDON. Yes, our current assumption of the threat, in the Missile Defense Agency (MDA), is consistent with the intelligence assessments published in the 1999 National Intelligence Estimates. MDA keeps ahead of the threat by ensuring that BMDS design and specifications are based on data that are consistent, not only with the most current intelligence assessments, but also extended beyond point designs provided by the Intelligence Community, including threat missiles that have not yet reached initial operational capability or have not yet been flight tested as part of the parametrically defined BMDS threat space. This expanded threat space provides a hedge against uncertainties in adversary capabilities. Finally, MDA ensures missile defense capabilities are tested using flight test targets that are based on the same threat representative intelligence assessments.

Mr. COOPER. 12) Total missile defense costs have usually not accounted for operations and support costs or MILCON funding. As a result the cost for Aegis Ashore has increased from \$837 million to \$1.6 billion. What are the plans to more accurately assess costs, including a full-accounting of costs?

Secretary CREEDON. Baselines reported by the Missile Defense Agency (MDA) in the annual Ballistic Missile Defense System (BMDS) Accountability Report (BAR) describe program content. Missile defense operations and support costs reported in the BAR include those MDA expects to fund. MDA does not include in its Aegis Ashore BAR resource baselines the operations and support costs that are Navy's responsibility once transition and transfer of this missile defense capability is complete.

MDA reported its initial baseline for the Romania site of the Ashore Program in the MDA 2010 BAR at \$966M. This cost estimate remained stable for the MDA 2011 BAR. The increase in the MDA 2012 BAR was a result of completion of design reviews and program definition which led to an updated system configuration and acquisition strategy. Also, to more accurately provide full-accounting of costs, approximately \$600M in Military Construction, Site Activation, On Site Systems Engineering, and Non-tactical Communications estimates were moved to the Aegis Ashore Resource Baseline from other MDA program baselines. With these updates, the total cost reported in the 2012 BAR for the Aegis Ashore Romania baseline, which includes the PMRF site, was \$1,588 million. The costs associated with Aegis Ashore have included in BMDS cost estimates, although not aligned with the Aegis Ashore Baseline prior to the 2012 BAR.

In the 2013 BAR, MDA provided a revised Romania site resource baseline and an initial Poland site baseline. Both baselines include a full accounting of MDA cost. These costs form the basis for the annual President's Budget request for Aegis Ashore programs.

Mr. COOPER. 13) Your stated plan is to recommend one site for an additional missile defense location by the end of the year. Yet, the NDAA FY 2013 requires DOD to perform Environmental Impact Statements for 3 sites. What are the reasons for recommending one site before the EIS process? Will it include a consideration of costs?

What factors would support deployment of a third interceptor site on a short timeline? What are the tradeoffs with other necessary improvements to missile defense that may be required before the deployment of a third site?

Admiral SYRING. In accordance with the FY 2013 NDAA, Section 227, upon completion of the Continental United States Interceptor Site (CIS) Study, the Director of the Missile Defense Agency will recommend at least three locations of which at least two will be on the East Coast. A single Environmental Impact Statement will assess the candidate sites. MDA will evaluate cost for all potential CIS deployment sites.

The main factor that would affect an acceleration of a third site deployment is the projected threat. There most likely would be tradeoffs between a third site and other potential system improvements. These other improvements include future investment in discrimination and sensor enhancements, upgrades to Clear and Cape Cod radars, additional AN/TPY-2 deployment to Japan, continued work on a GBI In-Flight Interceptor Communications System Data Terminal at Fort Drum, New York, and continued use of the Sea-Based x-Band Radar during real-world events.

Mr. COOPER. 14) General Dempsey testified before our committee that DOD was considering the deployment of Aegis ships for missile defense purposes to defend the East Coast as one of the options being considered. Is this in fact the plan, as stated by General Dempsey? Or is DOD only considering a missile defense site with ground-based interceptors? Is Aegis Ashore being considered? Why/why not?

Admiral SYRING. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 15) Please provide a classified answer on the current capability to provide shoot-look-shoot coverage of the United States, and what the constraints are. What are your priorities to improve our current S-L-S capability? What results must be achieved before the United States can meet Secretary Hagel's stated requirement that "complete confidence" in the GBI interceptors was a prerequisite to deployment of the 14 additional GBI interceptors? Specifically, which flight or intercept tests must be successfully conducted and what capabilities must be demonstrated in order to meet this requirement?

Admiral SYRING. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 16) In tests of the GBI, is a "hit" considered a "kill"? Are there any successful intercept tests where a hit would have not equated to a kill of the target? How do these assumptions impact the reliability of the GMD system?

Admiral SYRING. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 17) What is the most pressing need for missile defense? Where do you recommend we focus our investments?

Admiral SYRING. The top priorities of the Missile Defense Agency are to improve homeland defense through successful completion of the Ground-based Midcourse Defense Return to Intercept path for Capability Enhancement (CE)-II Ground-Based Interceptors (GBIs), improving the performance, quality and reliability of GBIs and conducting a thorough investigation of the recent Flight Test GMD-07 (FTG-07) flight test failure of a CE-I GBI; achieve a full rate production decision for the Standard Missile-3 (SM-3) Block IB missile through successful execution of Flight Test Standard Missile-21/22 (FTM-21/22); fielding a 2nd Army/Navy/Ground, Transportable Radar Surveillance and Control Series 2 (AN/TPY-2) radar to Japan to improve homeland and regional defense; and continuing progress in meeting European Phased Adaptive Architecture Phase 2 deployment of Aegis Ashore to Romania.

Additionally, future investment in Ballistic Missile Defense System (BMDS) discrimination and sensor capabilities would result in cost-effective near-term improvements to homeland missile defense. These potential sensor enhancements would improve the BMDS kill chain and increase threat discrimination. The Department of Defense is conducting an evaluation of future investment options which will serve to inform decisions on our future BMDS architecture and budget requests.

Mr. COOPER. 18) What are the options to improve discrimination for homeland missile defense?

Admiral SYRING. The top priorities of the Missile Defense Agency are to improve homeland defense through successful completion of the Ground-based Midcourse Defense Return to Intercept path for Capability Enhancement (CE)-II Ground-Based Interceptors (GBIs), improving the performance, quality and reliability of GBIs and conducting a thorough investigation of the recent Flight Test GMD-07 (FTG-07) flight test failure of a CE-I GBI; achieve a full rate production decision for the Standard Missile-3 (SM-3) Block IB missile through successful execution of Flight Test Standard Missile-21/22 (FTM-21/22); fielding a 2nd Army/Navy/Ground, Transportable Radar Surveillance and Control Series 2 (AN/TPY-2) radar to Japan to improve homeland and regional defense; and continuing progress in meeting European Phased Adaptive Architecture Phase 2 deployment of Aegis Ashore to Romania.

Additionally, future investment in Ballistic Missile Defense System (BMDS) discrimination and sensor capabilities would result in cost-effective near-term improvements to homeland missile defense. These potential sensor enhancements would improve the BMDS kill chain and increase threat discrimination. The Department of Defense is conducting an evaluation of future investment options which will serve to inform decisions on our future BMDS architecture and budget requests.

Mr. COOPER. 19) What are your priorities to improve the reliability of the GBIs for the warfighter?

Admiral SYRING. Improving Ground-Based Interceptor (GBI) reliability is a top MDA priority for supporting the Warfighter. Increased reliability is the most cost-effective method of countering a growing ballistic missile threat because the Ground-based Midcourse Defense (GMD) system is able to negate more targets with the same number of fielded GBIs.

In 2012, MDA aligned its GBI reliability focus through four primary initiatives for improving GBI reliability. Each of these initiatives is described below.

GBI Fleet Upgrade Program: Removes fielded GBIs from silos, upgrades them to remove known risks, performs mandatory maintenance, replaces limited-life items, conducts acceptance testing, and returns the upgraded GBIs to the operational fleet. At the end of 4th QTR FY2013, there will be twelve upgraded GBIs in the operational fleet with one additional upgrade scheduled for FY2014.

Flight Test Rotation Program: Removes older GBIs from silos, performs a limited upgrade to meet flight test configuration requirements, performs mandatory maintenance, replaces limited-life items and conducts acceptance testing. The interceptor is used in the flight test program and a new or upgraded spare GBI is reemplaced in the silo.

GBI Reliability Growth Testing Program: Ensures design fixes are effective and eliminates risks. In the near term, FTG-06b will demonstrate design fixes for the problems uncovered in the FTG-06a flight test. MDA conducts additional on-going ground testing of components and assemblies to verify design fixes, demonstrate reliability, qualify parts, and increase confidence in component reliability.

Component Reliability Program: Includes testing, analyzing performance trends, and identifies reliability improvements for GBI component hardware. The program identifies components with limited reliability history for accelerated aging testing to validate reliability predictions. In 2011, MDA awarded the GMD Development and Sustainment Contract (DSC) which promotes fleet reliability through its incentive structure and specifically addresses reliability improvements. First, the DSC requires the contractor to address known shortcomings with design improvements in both new and upgraded interceptors. Second, the contract requires extensive ground testing of interceptor components to validate current reliability predictions, or identify areas for improvement through redesign and replacement. Finally, the DSC enhances the Stockpile Reliability Program activity to test and track aging effects on the fielded systems.

In light of the recent FTG-07 flight test failure, MDA initiated an independent assessment of the reliability of the GBI fleet. The assessment will increase confidence by thoroughly investigating the GBI fleet and identifying design, manufacturing, quality, and acceptance test issues with GBI configurations that might preclude reliable GBI operation. The assessment will also identify changes to the design and/or manufacturing processes to provide improvements in reliability. MDA also plans to authorize a trade study of existing GBI reliability initiatives to determine any improvements that will yield increases to overall fleet reliability and/or confidence.

Finally, under the DSC, MDA will deploy a follow-on GBI with an updated booster to address obsolescence issues and an updated Exoatmospheric Kill Vehicle (EKV) known as the Capability Enhancement (CE)-II Block 1 (CE-II Blk 1) that incorporates performance and reliability improvements. In parallel, MDA is currently planning the next generation of EKV to follow the CE-II EKVs. The options currently under evaluation incorporate performance enhancements and increased reliability, based on knowledge gained through MDA's on-going reliability improvement efforts.

Mr. COOPER. 20) Please provide a chart (classified if necessary) listing the improved capability of the CE-II versus the CE-I kill vehicle associated with the new ground-based interceptor? What is the current cost of a CE-II GBI? What are the estimated costs to modify the CE-II kill vehicles already deployed on interceptors?

Admiral SYRING. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 21) What are the risks and benefits of procuring booster stacks for Ground-Based Interceptors in FY14, when GBI procurement was not slated to begin until FY16?

Admiral SYRING. Pursuing an accelerated procurement of booster stacks (i.e. motors) in fiscal year (FY) 2014 would not benefit the MDA or its ability to deliver on the Department's commitment for 44 GBIs. This initiative would present two concerns to the Ground-based Midcourse Defense program. First, initiating the procurement in FY 2014 would lead to delivery of the boosters earlier than needed and would result in increased costs of approximately \$1.5 million per year to the program due to motor storage while they wait for integration into the 14 GBIs. Second, once the motors are manufactured, the shelf-life of the motor begins. Delivering the motors earlier than needed to support the delivery of the 14 GBIs would reduce usable expected life of these components.

Mr. COOPER. 22) What analysis underpins the decision to deploy an additional 14 interceptors? Specifically how did we arrive at the 14 number?

Admiral SYRING. [The information referred to is classified and retained in the committee files.]

Mr. COOPER. 23) In a 1999 National Intelligence Estimate, the U.S. National Intelligence Council stated: "We assess that countries developing ballistic missiles," including North Korea and Iran, "would also develop various responses to U.S. theatre and national defenses . . . by the time they flight test their missiles."

Is that still the current assumption underpinning the response to the threat and being factored into missile defense tests to ensure that our missile defense system keeps ahead of the threat?

Admiral SYRING. Yes, our current assumption of the threat, in the Missile Defense Agency (MDA), is consistent with the intelligence assessments published in the 1999 National Intelligence Estimates. MDA keeps ahead of the threat by ensuring that BMDs design and specifications are based on data that are consistent, not only with the most current intelligence assessments, but also extended beyond point designs provided by the Intelligence Community, including threat missiles that have not yet reached initial operational capability or not yet been flight tested as part of the parametrically defined BMDs threat space. This expanded threat space provides a hedge against uncertainties in adversary capabilities. Finally, MDA ensures missile defense capabilities are tested using flight test targets that are based on the same threat representative intelligence assessments.

Mr. COOPER. 24) What are the benefits of the Administration's commitment to "fly-before-you-buy" in the context of the additional 14 GBI procurement?

Admiral SYRING. "Fly-before-you-buy" ensures that designs are qualified and tested before being deployed for operational use. This approach ensures that fielded assets are fully capable of meeting required performance standards and defending the homeland, and reduces cost risks associated with subsequent rework and upgrades.

The Missile Defense Agency (MDA) is committed to testing Capability Enhancement (CE)-II ground-based interceptors (GBIs) with the new version of firmware (V10) in the inertial measurement unit before more CE-IIs are deployed.

We will conduct an intercept flight of an updated CE-II, Block I GBI design (called the Common Booster Avionics and Obsolescence design (CBAU)/CE-II Block I Exoatmospheric Kill Vehicle) in FY 2016. As requested in the President's Budget for FY 2014, production of the 14 additional GBIs will begin in FY 2016. They are currently planned to be manufactured to this CE-II, Block I GBI configuration.

Mr. COOPER. 25) Total missile defense costs have usually not accounted for operations and support costs or MILCON funding. As a result the cost for Aegis Ashore has increased from \$837 million to \$1.6 billion. What are the plans to more accurately assess costs, including a full-accounting of costs?

Admiral SYRING. Baselines reported by the Missile Defense Agency (MDA) in the annual Ballistic Missile Defense System (BMDS) Accountability Report (BAR) describe program content. Missile defense operations and support costs reported in the BAR include those MDA expects to fund. MDA does not include in its Aegis Ashore BAR resource baselines the operations and support costs that are Navy's responsibility once transition and transfer of this missile defense capability is complete.

MDA reported its initial baseline for the Romania site of the Ashore Program in the MDA 2010 BAR at \$966M. This cost estimate remained stable for the MDA 2011 BAR. The increase in the MDA 2012 BAR was a result of completion of design reviews and program definition which led to an updated system configuration and acquisition strategy. Also, to more accurately provide full-accounting of costs, approximately \$600M in Military Construction, Site Activation, On Site Systems Engineering, and Non-tactical Communications estimates were moved to the Aegis Ashore Resource Baseline from other MDA program baselines. With these updates, the total cost reported in the 2012 BAR for the Aegis Ashore Romania baseline, which includes the PMRF site, was \$1,588 million. The costs associated with Aegis Ashore have included in BMDS cost estimates, although not aligned with the Aegis Ashore Baseline prior to the 2012 BAR.

In the 2013 BAR, MDA provided a revised Romania site resource baseline and an initial Poland site baseline. Both baselines include a full accounting of MDA cost. These costs form the basis for the annual President's Budget request for Aegis Ashore programs.

Mr. COOPER. 26) What are the contingency plans if the planned July CE-1 or next CE-2 flight intercept tests fail?

Admiral SYRING. On July 5, 2013, the Missile Defense Agency conducted Flight Test Ground-Based Interceptor (GBI) (FTG)-07. The test objectives included engagement of a target by a Capability Enhancement (CE)-I Exoatmospheric Kill Vehicle (EKV), and performing all EKV functions to discriminate and intercept a lethal object from a representative Intercontinental Ballistic Missile target scene. The target met all requirements, and with the exception of the GBI, all elements of the Ballistic Missile Defense System (BMDS) functioned as planned. The GBI successfully launched, but the target was not intercepted. MDA has initiated a Failure Review Board (FRB) to determine the root cause of the failure. Once the FRB is complete, MDA will implement corrective actions and replan future intercept flight tests.

In parallel with the FTG-07 FRB, MDA will verify there is separation (the absence of potential common flaw) to ensure that the cause of the FTG-07 failure is

not present in the CE-II GBIs. Pending the result of these analyses, MDA (with COCOM consideration) will plan to execute FTG-06b as currently scheduled for March-May in the 2014 flight test window. If MDA cannot establish separation, the FTG-06b flight test date will depend on results of the FTG-07 FRB and implementation of any corrective action.

If CE-II fails, MDA will conduct a thorough investigation and develop options for returning to intercept testing once root cause and the need for design or process changes is known.

Mr. COOPER. 27) Sensors and radars, and particularly SBX are increasingly becoming one of the most important assets required to defend the homeland. What are the plans for SBX and what are the plans to protect SBX from attack? What are the plans for providing a redundancy capability? What is the limiting factor on deploying the SBX and is MDA considering procuring a resupply vessel for the SBX?

Admiral SYRING.

- The budget request for SBX in FY 2014 maintains SBX in limited test support status (LTSS). In LTSS the SBX supports the BMDS ground and flight test program and remains available for contingency activation for homeland defense.
- The Department is currently studying how to better define the Ballistic Missile Defense System (BMDS) sensor architecture of the future for homeland defense, to include the role of the SBX.
- Commander Third Fleet Operations Order 201 specifies detailed force protection measures to protect SBX-1 from attack. These measures are in accordance with Commander, U.S. Strategic Command Instruction 538-02, "BMDS Physical Security Program." To meet these requirements, SBX uses a contracted security force and contracted mariners for internal security, with other Navy force protection assets. Assets include Naval Base security (when in port) and the Fleet Commander-provided security (when under way). These will provide escorts based on operational considerations and increasing force protection levels.

Regarding a redundancy capability, the Department is currently studying how to better define the BMDS sensor architecture of the future for homeland defense. These studies are assessing potential radar solutions such as type, location, and technical performance.

Funding is the only limiting factor for short-term deployment of the SBX. For long-term deployment of the SBX, limiting factors are funding and the lack of an offshore support vessel (OSV). The President's Budget for FY 2014 doesn't include an OSV. There are no plans to procure an OSV.

Mr. COOPER. 28) In a 1999 National Intelligence Estimate, the U.S. National Intelligence Council stated: "We assess that countries developing ballistic missiles," including North Korea and Iran, "would also develop various responses to U.S. theatre and national defenses . . . by the time they flight test their missiles."

Is that still the current assumption underpinning the response to the threat and being factored into missile defense tests to ensure that our missile defense system keeps ahead of the threat?

Dr. GILMORE. Yes. The Missile Defense Agency, the Ballistic Missile Defense System Operational Test Agency Team, and my office work together to develop and execute a test program for both theater/regional and national/strategic missile defense systems accounting for the capabilities the intelligence agencies project the threats these systems are meant to negate could possess. This plan is codified in the Ballistic Missile Defense System Integrated Master Test Plan.

Mr. COOPER. 29) What are the benefits of the Administration's commitment to "fly-before-you-buy" in the context of the additional 14 GBI procurement?

Dr. GILMORE. The benefit of any "fly-before-you-buy" acquisition program is that system performance is verified before substantial commitment of resources to production. This approach makes it less likely that additional resources will have to be committed to fix problems discovered after production items are bought, delivered, and fielded. The Department's experience indicates that problems discovered after production items are delivered and fielded are more expensive to fix than problems discovered (through testing) before production commences.

Mr. COOPER. 30) What are the contingency plans if the planned July CE-1 or next CE-2 flight intercept tests fail?

Dr. GILMORE. Subsequent to the hearing upon which this question is based, the July intercept flight test of an interceptor equipped with a Capability Enhancement I (CE-I) Exo-atmospheric Kill Vehicle (EKV) failed. The investigation of this failure is under way. The content of the plan for dealing with this failure will be based on its root cause, which is not yet known. Similarly, if the flight test of the CE-II EKV, currently scheduled for the third quarter of Fiscal Year 2014 fails, the plan for dealing with that failure would depend on the details of its root cause.

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. 31) What results must be achieved before the United States can meet Secretary Hagel's stated requirement that "complete confidence" in the Ground-Based interceptors (GBI) is a prerequisite to deployment of the 14 additional interceptors? Specifically, which flight or intercept tests must be successfully conducted and what capabilities must be demonstrated in order to meet this requirement?

Secretary CREEDON. Complete confidence will involve testing of both Capability Enhancement (CE)-II and CE-II Block I since the 44 Ground-Based Interceptors (GBIs) will have both variants. Before fielding the additional 14 Ground-Based Interceptors (GBIs), MDA will first complete its Return to Intercept (RTI) program by conducting extensive ground testing of the Capability Enhancement (CE)-II Exoatmospheric Kill Vehicle (EKV) to ensure the root causes of the Flight Test GBI (FTG)-06a flight test failure have been corrected and to qualify the design. The CE-II EKV is currently scheduled to be demonstrated in an intercept flight test (FTG-06b) planned for a March–May 2014 test window. Successful completion of the flight test will allow resumption of planned CE-II GBI deliveries for operational use. Additionally, MDA is currently developing the CE-II Block I design that will incorporate enhancements to improve performance and reliability. MDA will conduct extensive modeling and simulation and ground testing to fully qualify the CE-II Block I design. MDA will then demonstrate the CE-II Block I EKV in an intercept flight test (FTG-15) scheduled for FY2016. The successful completion of ground and flight testing of the legacy CE-I and CE-II Block I designs will provide complete confidence in the fielded CE-II fleet and for the deployment of additional interceptors required to achieve 44 operational GBIs by the end of FY2017. In response to the FTG-07 CE-I failure, MDA established a failure review board of experts from government, the national laboratories, and industry. The board is analyzing the FTG-07 data to establish the root cause of the failure and will attempt to duplicate the failure sequence through simulation and component ground test. When MDA has determined the cause of the FTG-07 failure, then MDA will work with the COCOMS and Pentagon leadership to determine the timing and configurations for future CE-I/CE-II flight testing.

Mr. LANGEVIN. 32) Will the 14 additional Ground-based Interceptors that were announced in March 2013 be equipped with the CE-II kill vehicle? If the next intercept test of the new CE-II kill vehicle fails, will the deployment of the planned 14 additional GBI interceptors still take place by 2017?

Secretary CREEDON. The 14 additional Ground-Based Interceptors (GBIs), as announced in March 2013, will use an upgraded version of the current Capability Enhancement (CE)-II Exoatmospheric Kill Vehicle (EKV), known as CE-II Block I. Should there be a failure of the next CE-II flight test (FTG-06b), MDA will conduct a failure review to determine root cause and assess implications for CE-II EKVs. Depending on the results of that assessment, MDA will develop and implement the necessary changes. The planned objective to deploy 44 operational GBIs by the end of Fiscal Year 2017 could be impacted.

Mr. LANGEVIN. 33) How does the FY14 budget request preserve the investments made in the directed energy programs, and what role does MDA see for DE capabilities in the future?

Secretary CREEDON. The Missile Defense Agency's (MDA) FY14 budget request preserves the investments made in directed energy by firmly supporting technology development to demonstrate next-generation, multimission directed energy systems. The MDA's key investments include high-energy, high-brightness electric lasers, high-altitude/low-Mach platform characterization, high-altitude atmospheric characterization, and directed energy system concept definition.

Specifically, we will continue to fund Phantom Eye flights, diode pumped alkali laser system (DPALS) progression, as well as fiber combined laser (FCL) technology joint development with the Defense Advanced Research Projects Agency (DARPA). Phantom Eye is scheduled to perform a series of flights to record platform conditions at high-altitude/low-Mach. This will inform the design and packaging of high-powered laser payloads. We will characterize optical jitter at high altitudes using either the Phantom Eye or another high-altitude unmanned aerial vehicle (UAV). We will continue DPALS development to improve operability and performance. We will also continue FCL work with DARPA using fiber amplifiers procured by both Agencies. This work is to demonstrate increased laser power, multiple combining techniques and the ability to combine the large number of fiber lasers to achieve 100's of kilowatts at near-perfect beam quality.

Directed energy offers unique game-changing capabilities, including discrimination and ultimately boost-phase engagement. To this end, MDA will partner with

industry in FY14 to define feasible concepts to integrate high-energy lasers into UAVs for missile defense.

Mr. LANGEVIN. 34) What results must be achieved before the United States can meet Secretary Hagel's stated requirement that "complete confidence" in the Ground-Based interceptors (GBI) is a prerequisite to deployment of the 14 additional interceptors? Specifically, which flight or intercept tests must be successfully conducted and what capabilities must be demonstrated in order to meet this requirement?

Admiral SYRING. Complete confidence will involve testing of both Capability Enhancement (CE)-II and CE-II Block 1 since the 44 Ground-Based Interceptors (GBIs) will have both variants. Before fielding the additional 14 Ground-Based Interceptors (GBIs), MDA will first complete its Return to Intercept (RTI) program by conducting extensive ground testing of the Capability Enhancement (CE)-II Exoatmospheric Kill Vehicle (EKV) to ensure the root causes of the Flight Test GBI (FTG)-06a flight test failure have been corrected and to qualify the design. The CE-II EKV is currently scheduled to be demonstrated in an intercept flight test (FTG-06b) planned for a March-May 2014 test window. Successful completion of the flight test will allow resumption of planned CE-II GBI deliveries for operational use.

Additionally, MDA is currently developing the CE-II Block I design that will incorporate enhancements to improve performance and reliability. MDA will conduct extensive modeling and simulation and ground testing to fully qualify the CE-II Block I design. MDA will then demonstrate the CE-II Block I EKV in an intercept flight test (FTG-15) scheduled for FY2016. The successful completion of ground and flight testing of the legacy CE-II and CE-II Block I designs will provide complete confidence in the fielded CE-II fleet and for the deployment of additional interceptors required to achieve 44 operational GBIs by the end of FY2017. In response to the FTG-07 CE-I failure, MDA established a failure review board of experts from the Government, the national laboratories, and industry. The board is analyzing the FTG-07 data to establish the root cause of the failure and will attempt to duplicate the failure sequence through simulation and component ground test. When MDA has determined the cause of the FTG-07 failure, then MDA will work with the COCOMS and Pentagon leadership to determine the timing and configurations for future CE-I/CE-II flight testing.

Mr. LANGEVIN. 35) Will the 14 additional Ground-based Interceptors that were announced in March 2013 be equipped with the CE-II kill vehicle? If the next intercept test of the new CE-II kill vehicle fails, will the deployment of the planned 14 additional GBI interceptors still take place by 2017?

Admiral SYRING. The 14 additional Ground-Based Interceptors (GBIs), as announced in March 2013, will use an upgraded version of the current Capability Enhancement (CE)-II Exoatmospheric Kill Vehicle (EKV), known as CE-II Block I. Should there be a failure of the next CE-II flight test (FTG-06b), MDA will conduct a failure review to determine root cause and assess implications for CE-II EKVs. Depending on the results of that assessment, MDA will develop and implement the necessary changes. The planned objective to deploy 44 operational GBIs by the end of fiscal year 2017 could be impacted.

Mr. LANGEVIN. 36) How does the FY14 budget request preserve the investments made in the directed energy programs, and what role does MDA see for DE capabilities in the future?

Admiral SYRING. The Missile Defense Agency's (MDA) FY14 budget request preserves the investments made in directed energy by firmly supporting technology development to demonstrate next-generation, multimission directed energy systems. The MDA's key investments include high-energy, high-brightness electric lasers, high-altitude/low-Mach platform characterization, high-altitude atmospheric characterization, and directed energy system concept definition.

Specifically, we will continue to fund Phantom Eye flights, diode pumped alkali laser system (DPALS) progression, as well as fiber combined laser (FCL) technology joint development with the Defense Advanced Research Projects Agency (DARPA). Phantom Eye is scheduled to perform a series of flights to record platform conditions at high-altitude/low-Mach. This will inform the design and packaging of high-powered laser payloads. We will characterize optical jitter at high altitudes using either the Phantom Eye or another high-altitude unmanned aerial vehicle (UAV). We will continue DPALS development to improve operability and performance. We will also continue FCL work with DARPA using fiber amplifiers procured by both Agencies. This work is to demonstrate increased laser power, multiple combining techniques and the ability to combine the large number of fiber lasers to achieve 100's of kilowatts at near-perfect beam quality.

Directed energy offers unique game-changing capabilities, including discrimination and ultimately boost-phase engagement. To this end, MDA will partner with industry in FY14 to define feasible concepts to integrate high-energy lasers into UAVs for the missile defense of space.

Mr. LANGEVIN. 37) In the FY13 NDAA, funding for an additional TPY-2 radar was included to meet growing COCOM demands for missile defense. This demand has grown even since passage of that legislation—how does MDA intend to continue TPY-2 production?

In the area of RDTE, what would you identify as your top 3–4 priorities?

Admiral SYRING. The Missile Defense Agency (MDA) supports the Joint Staff, the Services, and combatant commanders through participation in the Warfighter involvement process. This process allows the Warfighter to set priorities for equipment and capabilities. We satisfy those priorities within budget and schedule constraints. The final program plan is adjudicated by the Missile Defense Executive Board where all stakeholders are represented. This ensures that the President's Budget provides maximum capability within resources available.

Our top RDT&E priorities are:

- Debris mitigation
- Improved discrimination
- Performance against the future advanced threats

Mr. LANGEVIN. 38) What results must be achieved before the United States can meet Secretary Hagel's stated requirement that "complete confidence" in the Ground-Based interceptors (GBI) is a prerequisite to deployment of the 14 additional interceptors? Specifically, which flight or intercept tests must be successfully conducted and what capabilities must be demonstrated in order to meet this requirement?

Dr. GILMORE. In my view, the minimum prerequisite for proceeding with additional production of interceptors and kill vehicles comprises the following: (1) At least one successful intercept using a Ground-Based Interceptor equipped with a re-designed Capability Enhancement II (CE-II) kill vehicle conducted under the same conditions as FTG-06, in which a CE-II failed to intercept its intended target. This flight test, designated FTG-06b, is currently scheduled to occur in the third quarter of Fiscal Year 2014. (2) Additionally, determination of the root cause of the failure of FTG-07 (which used a CE-I kill vehicle) and, if that failure is associated with components and/or software used in the CE-II kill vehicle, demonstration through appropriate testing of its correction.

Mr. LANGEVIN. 39) Will the 14 additional Ground-based Interceptors that were announced in March 2013 be equipped with the CE-II kill vehicle? If the next intercept test of the new CE-II kill vehicle fails, will the deployment of the planned 14 additional GBI interceptors still take place by 2017?

Dr. GILMORE. The Capability Enhancement I (CE-I) Exo-atmospheric Kill Vehicle (EKV) is no longer in production. The fourteen additional Ground-based Interceptors (GBIs) will be equipped with CE-II EKV. If the next flight test of the CE-II EKV currently scheduled for the third quarter of Fiscal Year 2014 fails, any recommendation I would make regarding production and deployment of additional interceptors and kill vehicles would depend upon the root cause of the failure. If the cause of the failure was a significant fault common to all the interceptors, I would not recommend additional production until a correction was determined and verified through appropriate testing.

QUESTIONS SUBMITTED BY MR. COFFMAN

Mr. COFFMAN. 40) What is the status of the CAPE's evaluation of the cost of the European Phased Adaptive Approach?

Secretary CREEDON. As described in the 2010 Ballistic Missile Defense Review, the United States is pursuing the European Phased Adaptive Approach (EPAA) as well as missile defense approaches in other key geographic regions. Each of these approaches is tailored to the threats and circumstances unique to each region and will evolve over time as the threat changes and new missile defense capabilities become available. The approaches also heavily utilize mobile and relocatable assets in order to provide maximum flexibility within and between various regions where missile defense capabilities are assigned. This factor alone complicates the analysis of which costs are attributable to any given approach. In the case of the EPAA, certain elements, such as the Aegis Ashore sites planned for construction in Romania (2015 timeframe) and Poland (2018 timeframe) are attributable to the EPAA. However, other elements, such as missile defense-capable Aegis ships operating in Europe and

Standard Missile 3 interceptors, are available for worldwide deployment and were not procured solely for the purpose of the EPAA. Therefore, an attempt to attribute a portion of the cost of these elements to the EPAA could be subjective. In addition, changes to the EPAA announced by Secretary Hagel in March 2013 and the uncertainty associated with the budgetary environment in Fiscal Year (FY) 2014 and beyond complicate further an attempt to prepare an accurate life-cycle cost estimate. Detailed cost information for ballistic missile defense (BMD) capabilities utilized in the EPAA mission can be found in documents already submitted to Congress, including Missile Defense Agency's annual Selected Acquisition Report and BMD System Accountability Report, and the FY 2014 President's Budget justification documents.

Mr. COFFMAN. 41) Has the Department calculated how much the EPAA will cost the United States over the Future Years Defense Plan, and if so, how much?

Secretary CREEDON. As described in the 2010 Ballistic Missile Defense Review, the United States is pursuing the European Phased Adaptive Approach (EPAA) as well as missile defense approaches in other key geographic regions. Each of these approaches is tailored to the threats and circumstances unique to each region and will evolve over time as the threat changes and new missile defense capabilities become available. The approaches also heavily utilize mobile and relocatable assets in order to provide maximum flexibility within and between various regions where missile defense capabilities are assigned. This factor alone complicates the analysis of which costs are attributable to any given approach. In the case of the the EPAA, certain elements, such as the Aegis Ashore sites planned for construction in Romania (2015 timeframe) and Poland (2018 timeframe) are attributable to the EPAA. However, other elements, such as missile defense-capable Aegis ships operating in Europe and Standard Missile 3 interceptors, are available for worldwide deployment and were not procured solely for the purpose of the EPAA. Therefore, an attempt to attribute a portion of the cost of these elements to the EPAA could be subjective. In addition, changes to EPAA announced by Secretary Hagel in March 2013 and the uncertainty associated with the budgetary environment in Fiscal Year (FY) 2014 and beyond complicate further an attempt to prepare an accurate life-cycle cost estimate. Detailed cost information for ballistic missile defense (BMD) capabilities utilized in the EPAA mission can be found in documents already submitted to Congress, including Missile Defense Agency's annual Selected Acquisition Report and BMD System Accountability Report, and the FY 2014 President's Budget justification documents.

Mr. COFFMAN. 42) Inasmuch as the President offered the EPAA to Europe free-of-charge, before the Budget Control Act, at what point does the Administration tell Europe, which has a larger economy than we do, that it's time it pays a share of these costs?

Secretary CREEDON. The United States is not alone in contributing to ballistic missile defense (BMD) in Europe. In partnership with NATO Ally host nations, the United States continues to implement the European Phased Adaptive Approach (EPAA), which will provide BMD for U.S. forces and facilities in and around the region, and for our Allies, as well as contribute to U.S. homeland missile defenses.

At the same time, we are working closely with the Allies to develop NATO's BMD effort. The NATO Allies committed to spend approximately \$1.3 billion in Common Funding for the expansion of NATO's missile defense command and control program through 2020 (the U.S. share of common funding is approximately 22 percent). The Active Layered Theater Ballistic Missile Defense (ALTBMD) program is a command and control network that will allow Allied missile defense assets to connect to each other and share high-precision data. Several Allies have also announced national contributions, and other Allies are considering upgrades to achieve BMD capabilities or new BMD acquisitions. The United States continues to encourage additional Allied national asset contributions to NATO BMD.

The EPAA is the U.S. national contribution to the NATO missile defense effort. As a central principle since the founding of the NATO Alliance, weapons are volunteered by Allies to support a NATO mission. The NATO Alliance itself does not "buy" weapons systems such as interceptors or ships, and Allies do not seek NATO Common Funding for their national asset contributions. U.S. requests for NATO Common Funding to pay for the EPAA would be contrary to longstanding NATO Alliance principles as well as Presidential-level commitments to the Allies. Such requests would seriously damage support among the Allies for NATO BMD and the EPAA, thus reducing the prospects for further Allied asset contributions.

Mr. COFFMAN. 43) What is the status of resource pooling, like SM-3 missiles, for the EPAA to defray some U.S. costs and perhaps enable the U.S. to reallocate those missiles to another theater?

Secretary CREEDON. The United States encourages strongly additional Allied national asset contributions to NATO's missile defense effort. Several Allies have announced national BMD asset contributions to the NATO effort, while other Allies are considering upgrades to achieve BMD capabilities or new BMD acquisitions. One of the possibilities discussed among the Allies has been the concept of interceptor pooling or sharing as a potential contribution to NATO's missile defense effort. Some Allied governments have experimented with these concepts during exercise events designed to examine coalition missile defense policy and operational issues. However, no Allied government has yet decided to pursue an interceptor pooling concept. The United States will continue to encourage further Allied investments in NATO BMD.

QUESTION SUBMITTED BY MR. BROOKS

Mr. BROOKS. 44) The MDA Objective Simulation Framework (OSF) contract was awarded competitively in FY12 and was designed to provide flexible and robust solutions to assess the U.S. ability to fully protect the homeland as well as provide the damage denial role vital to the success of our military commanders' missions abroad. However, the program has been subjected to a continuing series of budget reductions, restructuring and program slippages which have undercut the overall OSF program objectives. I understand there has also been a recent additional cut of \$2.5M that is requiring an immediate layoff of key technical personnel whose talents are vital to the continued success of OSF.

Would you please provide me a thorough review of the history and future funding and plans of the OSF contract at the earliest opportunity?

Admiral SYRING. After a full and open competition acquisition process, the OSF contract was competitively awarded on August 30, 2011 to Teledyne Brown Engineering, Huntsville, AL. The contract start date was September 1, 2011. The contract type is an indefinite delivery/indefinite quantity, with an ordering period running through September 30, 2016.

The funding profile for current contract execution is:

- FY 2011—Actual work incurred: \$.932M
- FY 2012—Actual work incurred: \$28.446M
- FY 2013—Planned: \$40.852M (reflects the renegotiated FY 2013 contract value following sequestration reductions, ?\$2.126M)
- FY 2014—Planned: \$30.599M
- FY 2015—Planned: \$23.199M
- FY 2016—Planned: \$23.469M
- Actual work incurred against OSF contract as of May 2013: \$60.915M

The contract is on track in FY 2013 to spend to the sequestration funding level, a reduction of \$2.126M versus the \$2.5M referenced above. The Government cannot guide or influence the contractor's staffing profiles, labor skill mix or manning levels to support the contract requirements. OSF capabilities were retained during FY 2013 replanning activities. Impacts were absorbed by managing additional schedule risk. The priority given to the OSF contract has not changed. Plans were established that enable all awarded OSF requirements to be met by September 30, 2016 (contract expiration).

QUESTION SUBMITTED BY MR. TURNER

Mr. TURNER. 45) I'm concerned that the budget request last year, continued this year in the President's Budget for FY14, limits the U.S. to the procurement of only 12 TPY-2 radars and 6 THAAD batteries. You participate in extensive capabilities prioritization with the combatant commanders when putting together the MDA budget request. Do they have sufficient THAAD and TPY-2 capabilities?

Admiral SYRING. The Missile Defense Agency (MDA) supports the Joint Staff, the Services, and the Combatant Commanders through participation in the Warfighter Involvement Process. This process allows the warfighter to establish priorities for equipment and capabilities, and MDA satisfies those priorities within budget and schedule constraints. The final program plan is adjudicated by the Missile Defense Executive Board where all stakeholders are represented. This process ensures that maximum capability is provided within resources available.

The question of "sufficient THAAD and AN/TPY-2 capabilities" is more likely best answered by U.S. Strategic Command as the Global Synchronizer for Ballistic Missile Defense System capabilities.

QUESTION SUBMITTED BY MR. CARSON

Mr. CARSON. 46) The United States has the premier system of university-based research institutions in the world. What steps is MDA taking to better utilize this network for research, development, and testing? What role will University Affiliated Research Centers play in this effort and what capabilities do they offer that differ from those offered by other universities?

Admiral SYRING. The Missile Defense Agency (MDA) has an active university outreach effort that includes:

- Campus visits from the MDA Director and top level MDA management
- A “Campus Champion” program that teams MDA leaders with specific universities to develop strategic long-term relationships with academic institutions
- Distributing a “University Programs Playbook” handout to help university researchers understand the needs of the Agency and how to submit research proposals
- A cooperative international technology development program teaming U.S. universities with foreign universities of allied nations

The MDA pursues research opportunities with the Nation’s universities through broad agency announcements posted on the FedBizOpps website twice a year. Research topics are derived from the mission and needs of the Ballistic Missile Defense System (BMDS). Our partners in research, development, and testing of the BMDS include Johns Hopkins University Applied Physics Laboratory, Georgia Tech Research Institute, Utah State University Space Dynamics laboratory, MIT/Lincoln Laboratory, and Carnegie Mellon Software Engineering Institute.

Collectively, these institutions are providing more than 600 staff years of technical effort in fiscal year 2013. To maintain awareness of the capabilities of these and other university-affiliated institutions, we established the position of Federally Funded Research and Development Center (FFRDC)/University Affiliated Research Center (UARC) Technical Advisor in the office of the Director for Engineering (DE). Each of the UARCs supporting MDA has a representative, or “Captain,” who works directly with the FFRDC/UARC Technical Advisor on a regular basis to identify opportunities for contribution to the MDA and create collaboration with peer institutions. We also established an annual meeting at each of the laboratories to review the work program for MDA and identify potential areas of research and development to apply to our programs. UARCs offer technical support to us that is different in two significant ways from support provided by other universities. First, UARCs are established to maintain a long-term, strategic relationship with DOD and their sponsoring agency. This relationship is based on their unique set of essential core competencies applicable to the sponsors’ missions. As a result, they understand both the technical and the mission aspects of the MDA’s challenges. Second, as recipients of sole-source contracts, UARCs are required to maintain a conflict-of-interest free position with respect to their research activities. We can therefore rely on them for objective technical advice and recommendations.