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STATUS OF IMPLEMENTING THE PHASED ADAPTIVE APPROACH TO MISSILE DEFENSE IN EUROPE

HEARING

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

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STATUS OF IMPLEMENTING THE PHASED ADAPTIVE APPROACH TO MISSILE DEFENSE IN EUROPE

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Wednesday, December 1, 2010.

The subcommittee met, pursuant to call, at 2:16 p.m., in room 2212, Rayburn House Office Building, Hon. James R. Langevin (chairman of the subcommittee) presiding.

Mr. LANGEVIN. Good afternoon. The Strategic Forces Subcommittee will come to order.

OPENING STATEMENT OF HON. JAMES R. LANGEVIN, A REPRESENTATIVE FROM RHODE ISLAND, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. LANGEVIN. Last year, on September 17th, President Obama announced the new Phased, Adaptive Approach strategy, or the PAA, for defending Europe and the United States against the growing threat of a ballistic missile attack, particularly from Iran. In his announcement, the President said, and I quote, "Our new missile defense architecture in Europe will provide stronger, smarter, and swifter defenses of American forces and American allies."

Last February, as part of the Ballistic Missile Defense Review signed by the Secretary of Defense, the PAA strategy was expanded to address other regional missile threats.

Today, the Strategic Forces Subcommittee will review the Administration's work on implementing the Phased, Adaptive Approach over the last year. We will hear from four distinguished witnesses:

Dr. Jim Miller, Principal Deputy Under Secretary of Defense for Policy;

Lieutenant General Patrick J. O'Reilly, Director of the Missile Defense Agency;

Rear Admiral Archer Macy, Jr., Director of the Joint Integrated Air and Missile Defense Organization for the Joint Staff;

And, finally, Mr. Frank Rose, Deputy Assistant Secretary of State for Space and Defense Policy.

I want to thank each of our witnesses for appearing today and for your upcoming testimony. I also want to congratulate our witnesses and the Administration as a whole for reaching agreement during the recent Lisbon Summit on a strategic framework for NATO [North Atlantic Treaty Organization]. This framework establishes the objective of achieving, "the capability to defend our populations and territories against ballistic missile attack as a core

element of our collective defence, which contributes to the indivisible security of the Alliance."

NATO-izing missile defense was a primary goal that my predecessor, Chairwoman Tauscher, pressed for during her tenure in this job. Hopefully the agreement reached at the Lisbon Summit will pave the way for rapid implementation of the PAA and open opportunities for sharing the burden of regional missile defenses with our allies and friends.

Today, about a year and two months after the announcement, the subcommittee will have an opportunity to hear from key administration witnesses on efforts to implement the PAA. In that regard, we asked our witnesses to address three key questions:

First, what are the key technical milestones that we should be watching for in each phase of the plan, and where do we stand in achieving those milestones? More broadly, where do we stand in defining the technical objectives and components for each phase?

Second, where do we stand in completing the operational plans and assessment of missile inventory requirements for each phase of the PAA? Specifically, when can we expect to see the results of the next Joint Capabilities Mix study?

Finally, where do we stand in defining the requirements for basing elements of each phase of the PAA on European soil and on completing the necessary agreements with each of the host nations?

With that, I want to say thanks again to each of our witnesses for making time to testify before the subcommittee today, and we look forward to hearing your views on the questions before the subcommittee today.

Before I turn the floor over to our ranking member, Mr. Turner, for his opening statement, I would like to note that this will be the last hearing of the Strategic Forces Subcommittee during the 111th Congress and, thus, my last hearing as chairman. Let me just say that it has been a pleasure to chair the subcommittee over the last year and a half, and I would like to thank all of my colleagues for their contributions to our work. Thank you.

But, specifically, I would like to thank the ranking member for his partnership in this endeavor. We did not always agree or see eye to eye, but I always valued his advice and counsel, and I have certainly appreciated his support in this entire process and his input. So thank you for that, Mike.

With that, the Armed Services Committee is a unique institution in the House, and I am certainly proud to be part of the bipartisan tradition we have maintained from its hearings.

With that, I want to turn it over now to the ranking member, Mr. Turner, for any questions or comments that he may have.

[The prepared statement of Mr. Langevin can be found in the Appendix on page 39.]

STATEMENT OF HON. MICHAEL R. TURNER, A REPRESENTATIVE FROM OHIO, RANKING MEMBER, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. TURNER. Well, thank you, Mr. Chairman. I want to thank our Chairman Langevin for his bipartisanship and spirit, and his leadership of this subcommittee. We certainly know that in the Na-

tional Defense Authorization Act, there are a number of issues that you affected very positively, and we greatly appreciate your leadership, specifically in the area of directed energy, and we certainly look forward to continuing in the next Congress your important focus upon the issue of cyber threats.

I would like to welcome Dr. Miller, Mr. Rose, Admiral Macy, and General O'Reilly. Let me start with a statement on the Phased, Adaptive Approach that I made last April at our missile defense budget hearing.

I offered: There is an opportunity to gain bipartisan support on these plans, but the committee must have confidence that the PAA is the best approach for protecting the United States and our European allies. Our ability to do effective oversight and to hold the Administration accountable for its implementation of the PAA is based on a continuous dialogue and information exchange that must occur between the Administration and our committee.

However, since the Administration's announcement over a year ago, this committee has repeatedly sought greater detail on plans, analysis, and resource requirements for the PAA. The lack of responsiveness to those requests led to the bipartisan legislative requirements that were placed in the House-passed defense bill, seeking information and cooperation with Congress.

I appreciate efforts by several of you over the last two months to remedy this situation. I met with General O'Reilly in October to discuss program plans, and yesterday the chairman and I received a briefing on how the PAA decision was made.

We are beginning to get a greater insight into the PAA, but there is still a lot we don't know yet. The Institute for Defense Analyses was tasked to conduct an independent assessment of the PAA and report to Congress by June 1st, 2010. I understand the bulk of their work was completed last summer, but the report is stuck in interdepartment coordination. I am interested in finding when we should expect to receive this report.

Also at our committee's request, the Government Accountability Office, the GAO, conducted a review of the European Phased, Adaptive Approach, EPAA, and concluded although the EPAA identified four phases of capability and timeframes for deployment, several key activities necessary to establish an acquisition decision framework remain undefined. These include finalizing EPAA architectures, systems, quantities and locations, determining key top-level EPAA acquisition decision points, and determining what constitutes phase completion.

In short, the Department has a significant amount of work ahead of it to translate its policy decision into a concrete, implementable architecture.

We still have several outstanding questions on the details of PAA, and I hope that our witnesses will address some of those today in their testimony.

First, as stated by the White House last September, the PAA approach was based upon an assumption that the long-range missile threat is "slower to develop." However, since then, troubling new details have emerged on both North Korea and Iran's long-range missile programs, and recent revelations show that Iran has 19

BM–25 advanced ballistic missiles it acquired from North Korea in its arsenals today that can reach Berlin and Moscow.

I have previously stated my concern about a gap in the PAA coverage for the United States. The ICBM [intercontinental ballistic missile] threat from Iran could materialize as early as 2015, according to the latest intelligence assessments, yet the PAA is not planned to cover the United States until 2020.

Now, there would also appear to be a gap in defensive coverage against ballistic missiles that can reach Western and Central Europe. Do these threat assessments change your approach in any way?

Second, the Administration has committed to a hedging strategy for defense of the homeland in case the long-range threat comes earlier or technical issues arise with the SM–3 [Standard Missile-3] Block IIA or IIB interceptors. Can our witnesses today discuss the details of this strategy, including any acquisition plans and key decision points necessary to employ the hedge?

Third, the Administration's approach to missile defense in Europe places emphasis on proven technology, yet we have since learned that the SM–3 Block IIB interceptor will be a new missile. The SM–3 Block IIA and Airborne Infrared System are still in early design and development, and the PTSS [Precision Tracking Space System] satellite system doesn't yet exist. The GAO found that "system schedules are highly optimized in technology development, testing, production, and integration, leaving little room for potential delays." So how are these technological risks being addressed?

Fourth, when will the Department determine force structure and inventory requirements for the PAA, and when will a total cost estimate be completed? Our committee will be challenged in assessing whether the budget is sufficient if we do not know the required quantities and costs to implement the PAA.

Fifth, I would appreciate an update on the status of host nation discussions for the land-based Aegis sites and forward-based radar. NATO's endorsement of territorial missile defense at the Lisbon Summit is very positive and I commend you and your predecessors' efforts towards this outcome. I am also interested in U.S. plans for NATO-izing the PAA as well as plans for allies' contributions toward PAA.

Lastly, press reports continue to surface that indicate that the U.S. and Russia are negotiating some sort of missile defense agreement led by Under Secretary of State Tauscher and her Russian counterparts. I remain concerned that the Administration might allow Russia to shape its missile defense plans, particularly for long-range missile defenses in Europe, in exchange for Moscow's adherence to the New START [Strategic Arms Reduction Treaty] Treaty. I would appreciate our witnesses discussing the exact nature and scope of the missile defense discussions that are ongoing with Russia.

On a final note, I want to once again thank Chairman Langevin. I appreciate your leadership and look forward to working with you on the important bipartisan oversight issues that we face in the 112th Congress. And I want to thank our witnesses here today for

their contribution to what is the important issues of our national security.

Thank you.

Mr. LANGEVIN. I want to thank the ranking member.

Now we turn it over to our witnesses and ask each of them to summarize their written statements in about five minutes. The committee has received full written statements from each of the witnesses, and without objection those statements will be made part of the record.

With that, Dr. Miller, the floor is yours.

STATEMENT OF HON. JAMES N. MILLER, PH.D., PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR POLICY, U.S. DEPARTMENT OF DEFENSE

Secretary MILLER. Mr. Chairman, Ranking Member Turner, members of the subcommittee, thank you for the opportunity to testify today. It is a pleasure to join my colleagues, General O'Reilly, Admiral Macy, and Mr. Rose.

As the chairman stated, in September of 2009, the President approved what was a unanimous recommendation of the Secretary of Defense and the Joint Chiefs of Staff for a Phased, Adaptive Approach to missile defense in Europe. Since that time, the Administration has made tremendous progress; most recently, as noted, at the Lisbon Summit, where allies agreed to pursue a territorial missile defense to protect NATO populations and territories. We are here to provide the subcommittee with a progress report, and in the interests of time we will all briefly summarize our statements.

As you know, the European Phased, Adaptive Approach has four phases. The Administration plans to deploy all four phases and has made excellent progress on each over the last year.

Phase 1, which starts in 2011, will rely on the SM–3, Standard Missile 3, Block IA interceptor, based on ships. We have had a number of successful tests of this interceptor. It remains in production. Some are deployed; 112 will be delivered by fiscal year 2012.

The Navy continues to convert Aegis ships to have a ballistic missile defense capability. We currently have 20 BMD-capable ships, and will convert to a total of 37 by the end of fiscal year 2015.

In early 2011, a BMD-capable Aegis ship carrying SM–3 Block IA interceptors will be deployed to the Eastern Mediterranean and Phase 1 of the EPAA will have started.

We still have one important phase, one test to accomplish. We plan to deploy a forward-based radar in southern Europe in 2011. We are currently in discussions with potential host nations, and while no decision has been made, we expect to meet the deployment timeline in 2011.

In Phase 2, which starts in the 2015 timeframe, we will continue with ship-based deployments and add a land-based Standard Missile-3 site in Romania. Romania agreed to host U.S. interceptors in February of this year and follow-on negotiations are underway. We plan to deploy 24 SM–3 interceptors in Romania. During Phase 2, these interceptors will be upgraded and we will add the improved Block IB of the Standard Missile-3.

The Department of Defense is now developing the SM–3 Block IIB. Some 180 of these missiles will be delivered by fiscal year 2015 when Phase 2 starts, and 324 by fiscal year 2017.

In Phase 3, which starts in the 2018 timeframe, we will deploy it at a land-based SM–3 site in Poland. Poland agreed to host this site in October 2009, not long after we announced the European Phased, Adaptive Approach. In July of 2010, Poland and the United States signed a protocol amending our ballistic missile defense agreement and, in addition, we have signed and ratified a supplemental status of forces agreement with Poland.

In Phase 3, we will introduce another new variant of the SM–3 missile, the IIA, which is currently in development in a cooperative program with the Japanese. It will have its first intercept test in 2014 and will enter service by 2018. We plan to deploy 24 SM–3 interceptors in Poland. That means we will have 48 land-based SM–3 interceptors deployed by Phase 3; 24 in Romania and 24 in Poland. That is about five times the number of interceptors planned under the previous third site approach. We will also have additional reloads in storage, plus the ship-based interceptors I referred to before.

Finally, Phase 4 will occur in the 2020 timeframe. The key added capability for Phase 4 will be the next-generation SM–3 interceptor, the Block IIB. This interceptor will provide early intercept capability against medium- and intermediate-range ballistic missiles and, very importantly, against potential ICBM threats from Iran or elsewhere in the Middle East.

The Missile Defense Agency is conducting concept development and component technology development during this fiscal year for the SM–3 Block IIB, and the request for proposals for the concept development for this missile was issued in October of 2010. So we are on track for all four phases of the Phased, Adaptive Approach in Europe.

We have also made tremendous progress in NATO. Shortly after the announcement of the European Phased, Adaptive Approach in fall 2009, NATO Secretary General Rasmussen stated his strong support. In December 2009, all NATO foreign ministers unanimously welcomed the EPAA, and at the Lisbon Summit, concluded about two weeks ago, NATO leaders agreed to a new NATO mission: to protecting the Alliance's populations and territories against ballistic missile attacks.

As part of the announcement of the EPAA last year, the Administration welcomed Russian cooperation on missile defenses. Seeking missile defense cooperation with Russia makes good sense, but it is not new. President Reagan proposed such cooperation with the Soviet Union in the 1980s; President G.W. Bush pursued cooperation on missile defense with Russia throughout his Administration.

Some have suggested recently that the U.S. proposal for ballistic missile defense cooperation with Russia represents a "secret deal." This is nonsense. There is no "secret deal" on missile defense nor negotiations for such a thing.

The Administration has told Congress repeatedly, including in testimony, that we are pursuing missile defense cooperation with Russia. These discussions are separate from New START discussions that have taken place, and in conducting these discussions

the Administration has made clear to Russia, to allies, to Congress, and to all others that the United States will not agree to any limitations or constraints on U.S. ballistic missile defenses and that the United States intends to continue improving and deploying BMD systems to defend the United States, our deployed forces, and our allies and partners.

Finally, as we implement EPAA, we also continue to maintain and improve our defenses of the homeland. The U.S. homeland is currently protected against a threat of limited ICBM attack by 30 ground-based interceptors which will all be deployed by the end of this fiscal year at Fort Greely, Alaska, and Vandenberg Air Force Base, California. So we have a capability today to counter the projected threats from North Korea and Iran.

At the same time, because the threat is unpredictable, we are hedging by completing Missile Field 2 in Alaska to allow for rapid emplacement of up to eight additional ground-based interceptors, and we are also continuing development of the two-stage ground-based interceptor. And as I noted before, the EPAA, the European Phased, Adaptive Approach, will also contribute to the defense of the United States homeland.

In conclusion, the threat posed by ballistic missiles is real and it is growing. As we said in our Ballistic Missile Defense Review, it is growing both qualitatively and quantitatively. Our missile defenses today are also very real, and our capabilities are also growing, both qualitatively and quantitatively.

We look forward to working with this subcommittee and with Congress in implementing the European Phased, Adaptive Approach and in implementing the rest of our missile defense efforts as well.

Thank you, and I look forward to your questions.

[The prepared statement of Secretary Miller can be found in the Appendix on page 41.]

Mr. LANGEVIN. Thank you, Dr. Miller. I want to thank you for your testimony.

With that, I now recognize General O'Reilly for your opening remarks.

STATEMENT OF LT. GEN. PATRICK J. O'REILLY, USA, DIRECTOR, MISSILE DEFENSE AGENCY, U.S. DEPARTMENT OF DEFENSE

General O'REILLY. Good afternoon, Chairman Langevin, Ranking Member Turner, other distinguished members of the subcommittee. It is my honor to testify before you today on the status of the European Phased, Adaptive Approach, or EPAA, for developing missile defense of our homeland, deployed forces, and NATO European allies.

The Missile Defense Agency, or MDA, is committed to disciplined management to efficiently create effective missile defense in the four phases outlined by the Ballistic Missile Defense Review.

Over the next decade, we are developing integrated missile defense that will provide robust capability using advanced sensors and a combination of interceptors for multiple intercept opportunities against short-, medium-, intermediate-range and intercontinental ballistic missiles, or SRBMs, MRBMs, IRBMs and ICBMs.

During the past year, we have made significant progress in implementing the EPAA, and I report to you that we are executing all of our programs according to the EPAA timelines.

Our greatest priority remains strengthening homeland missile defense. We continue to upgrade our ground-based midcourse defense system, expand our sensor network, and develop a new interceptor, the SM–3 IIB, which will add a layer of defense against potential future ICBMs launched from current regional threats.

During the past year, we emplaced the 30th ground-based interceptor, or GBI, restarted the GBI production supply chain, upgraded two of the original GBIs, conducted the first two-stage GBI flight test, installed a training node at Fort Greely, Alaska, upgraded the Thule, Greenland, early warning radar, and planned the Clear early warning radar upgrade in Alaska. Finally, we are on track to complete construction of our missile fields at Fort Greely by February 2012.

Much progress has been made in 2010 developing the EPAA Phase 1, which will provide initial protection of southern Europe from existing SRBM and MRBM threats. During the past year, we increased the number of BMD-capable ships to 20, we delivered 26 SM–3 IA interceptors, and supported the Japanese conducting the tenth intercept of an SRBM with the SM–3 IA interceptor.

We intercepted the lowest altitude engageable target of the Terminal High-Altitude Area Defense, or THAAD system, delivered a second THAAD battery, and began the initial production of 26 interceptors and two more THAAD batteries. Initially, we demonstrated the integration of the AN/TPY–2 [Army Navy/Transportable Radar Surveillance] radar with THAAD or Aegis in eight flight tests and began refurbishment of an AN/TPY–2 radar for deployment in southern or southeastern Europe next year. Finally, we supported multiple interoperability demonstrations with the NATO Active Layered Theatre Ballistic Missile Defense System.

EPAA development Phase 2 will be completed by 2015 and will provide greater defense against larger missile raid sizes and improve discrimination of ballistic missile threats, using remote radars and the SM–3 IB and SM–3 IA interceptors at sea and in a land-based or ashore configuration.

During the past year, we awarded the Aegis Ashore systems engineering contract and supported a U.S.-Romanian site selection team for the first deployed Aegis Ashore site. We also have begun at-sea operational testing of the upgraded Aegis fire control software for EPAA Phase 2 on the USS *Lake Erie.*

EPAA development Phase 3 will be completed in 2018 and provide defense against increasing raid sizes of SRBMs, MRBMs, and intermediate-range ballistic missiles over large areas of Europe, using the SM–3 IIA interceptors at sea and at Aegis Ashore sites in Romania and Poland, Airborne Infrared, or ABIR, remotely piloted vehicles and the Precision Tracking Space System, or PTSS.

During the past year, we began ground testing the SM–3 IIA interceptor components with the Japanese in preparation for flight test in 2014. We conducted five ABIR flight tests demonstrating missile tracking accuracy. We tracked missiles from space with the Space Surveillance Tracking System, and completed a concept re-

view for the PTSS to support production planning contracts starting in 2011.

EPAA development Phase 4 will be completed in 2020 and provide early intercept capability against large raid sizes of MRBMs and IRBMs and potential ICBMs from today's regional threats.

During the past year, we completed the SM–3 IIB System Concept Review and solicited three competitive concept definition contracts of which one industry team will be selected in 2013 to complete development and begin flight testing of the SM–3 IIB in 2016.

Finally, in fiscal year 2010, the Missile Defense Agency, in full collaboration with the developmental and operational test communities, updated our test plans for the EPAA, which include 72 flight tests and 107 ground tests over the next decade.

I look forward to answering your questions, and thank you.

[The prepared statement of General O'Reilly can be found in the Appendix on page 50.]

Mr. LANGEVIN. Thank you, General.

Before we go to Admiral Macy, we have a vote on right now. I think we will be able to get through Admiral Macy's testimony, and then we will recess and then go to vote. There are five votes, and then we will return for Mr. Rose's testimony and then go into questions.

With that, Admiral Macy, the floor is yours.

STATEMENT OF REAR ADM. ARCHER M. MACY, JR., DIRECTOR, JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION, JOINT CHIEFS OF STAFF

Admiral MACY. Thank you. Good afternoon, Chairman Langevin, Ranking Member Turner, and other distinguished members of the subcommittee. I appreciate the opportunity to discuss the Phased, Adaptive Approach for ballistic missile defense along with Dr. Miller, General O'Reilly and Mr. Rose.

I will summarize the operational benefits of the PAA as the U.S. approach to missile defense which is responsive to both congressional direction and the warfighters' needs. I will also touch on the planning and analysis undertaken by the Joint Staff to help guide decisions on maximizing combatant commander war-fighting capability. Additional details are contained in my submitted written testimony.

While a majority of our remarks today will address the European Phased, Adaptive Approach in some detail, I want to emphasize here that the PAA is a conceptual approach to providing ballistic missile defense capability for the homeland and our forces, allies, and partners in different regions, circumstances, and times. It is a realignment and an operational enhancement of our BMDS [Ballistic Missile Defense System] plans and is not a replacement. The realignment provides us with a greater capability through a flexible and adaptable approach which focuses on protecting those most at risk today, while continuing to improve our capability against future threats.

As has been noted by the Congress, the most pressing threat for our deployed forces today is the increasing number of short-range and medium-range ballistic missiles. The PAA addresses these issues head-on.

The U.S. cannot afford to build the number of launchers, interceptors, and sensors it would take for each combatant commander to have his own dedicated BMDS capability that can address all the potential strikes that could be launched at any time. What the PAA provides instead is a balanced investment that has the capability to engage the range of threats, can be tailored to the geography, political circumstances, and defense capabilities of regional partners, and has the flexibility to rapidly deploy more assets where and when they are needed.

The PAA concept provides the United States with an enhanced capability to respond to regional threats worldwide, no matter where they emerge, and to strengthen defense of the homeland. The PAA is phased to advances in our own technical and operational capabilities for ballistic missile defense, and it is adaptive to trends and advances in potential adversarial threats.

We speak of four phases in advances of our technical capabilities. However, the same number and timing of application of individual phases may not be applied in each combatant commander's AOR [area of responsibility] the same way. We are developing plans for phases for each AOR with the European PAA currently being the most advanced, a majority of which General O'Reilly has described.

I earlier alluded to the planning and analysis we have underway to support PAA implementation, and as the chairman and Mr. Turner noted, this includes the Joint Capabiliies Mix study. We previously conducted JCM–1 in 2005–2006, and JCM–2 in 2007–2008. The latter was briefed to this subcommittee in September of that last year.

The final report on the current assessment, JCM–3, which focuses on the force requirements for the PAA, will not be completed until March of 2011, so I do not have any results I can discuss today. However, I think it is important to understand what this study is, how it is being executed, and the kind of results that will be produced. I will note that I look forward to the opportunity next spring to discuss those results with this subcommittee when they are available.

JCM–3 is examining our missile defense strategy in the PAA to inform decisions on the number and type of sensors, launchers, and interceptors we require. In order to determine force needs at this level of granularity, we have to take into account how the combatant commands intend to employ them, what the threats are, and generally how the threat will be expected to be employed.

The analysis is being executed by JIAMDO [Joint Integrated Air and Missile Defense Organization], my organization, in conjunction with representatives from the combatant commands, the Missile Defense Agency, the services, and OSD [Office of the Secretary of Defense] Cost Assessment and Program Evaluation, CAPE.

In parallel with the JCM–3 study, the Joint Staff, U.S. Strategic Command, and the staffs of PACOM [United States Pacific Command], EUCOM [United States European Command] and CENTCOM [United States Central Command] are conducting formal planning for how the PAA will be implemented in their areas of responsibility. Further, EUCOM is working closely with NATO to develop the concept of operations, command and control plans, and planning factors for the implementation of the recent NATO

decision at Lisbon to incorporate missile defense as a core element of the collective defense.

In conclusion, the Department is investing a significant portion of its budget in missile defense and the PAA is providing the necessary framework to ensure it is invested effectively and wisely and, most importantly, meets the warfighters' needs. We have established a solid process and an analytic approach to monitor and guide the implementation of the PAA, and we expect to develop and field the phases in the most operationally effective and cost-efficient manner possible.

Thank you for the opportunity, and I look forward to answering your questions.

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

Mr. LANGEVIN. Thank you, Admiral Macy.

As I said, we are going to recess right now. We will begin, when we return, with Mr. Rose's testimony, and then go into questions. With that, the subcommittee stands in recess.

[Recess.]

Mr. LANGEVIN. The committee will come to order. I want to thank our witnesses for their patience. With that, I want to resume now by turning the floor over to Mr. Rose, last but not least. We look forward to your testimony.

Thank you.

STATEMENT OF FRANK ROSE, DEPUTY ASSISTANT SECRETARY FOR SPACE AND DEFENSE POLICY, U.S. DEPARTMENT OF STATE

Secretary ROSE. Chairman Langevin, Ranking Member Turner, members of the subcommittee, thank you for the opportunity to testify today on the Obama administration's efforts to implement the European Phased, Adaptive Approach, or EPAA.

As many of you know, I worked for this subcommittee for two and a half years, and this is my first opportunity to sit on the other side of the table and testify. I look forward to answering your questions.

Under Secretary Tauscher sends her regrets that she could not participate in person. Instead, she has prepared a statement and has asked that it be included in the record of today's hearing.

Mr. Chairman, I would like to focus my opening remarks today on the progress we have made in implementing the EPAA over the past year. Last year, President Obama committed the United States to a comprehensive new plan to provide missile defense protection to our NATO Allies and the United States. This plan will defend against the existing short- and medium-range threat and evolve as the threat evolves. This plan has opened up new opportunities for cooperation with our Allies and has enhanced NATO's Article 5 commitment to collective defense.

At the Lisbon summit two weeks ago, NATO agreed to develop a missile defense capability to defend its territory, populations, and forces against ballistic missile attack. In the summit declaration, NATO heads of state and government stated, "The threat to NATO European populations, territory, and forces posed by the proliferation of ballistic missiles is increasing. As missile defence forms part

of a broader response to counter this threat, we have decided that the Alliance will develop a missile defence capability to pursue its core task of collective defence."

Additionally, the Alliance agreed to expand its missile defense command and control system to include territorial missile defense. This will enable voluntary national contributions from the United States and other NATO Allies to plug into the overall NATO capability.

Finally, the Alliance welcomed the EPAA as an important national contribution to this NATO capability.

Mr. Chairman, it is important to know that while NATO has been involved in missile defense since the late 1990s, that work has been strictly limited to defending its military forces from ballistic missile attack, not defending its territory and populations. It has been a long-standing bipartisan goal of the United States to expand the Alliance's work on missile defense, to include defense of territory and populations. Therefore, the significance of NATO's decision on missile defense at Lisbon should not be underestimated. It is a major diplomatic victory for the United States and the Alliance as a whole.

In addition to the recent success at NATO, we have also made significant progress in implementing the bilateral agreements that are necessary to deploy elements of the EPAA in Europe.

On the deployment of the Phase 1 radar in southeastern Europe, once agreement on a location has been reached, we are prepared to immediately begin formal negotiations on a basing agreement.

For Phase 2, Romania has agreed to host a land-based SM–3 site. We began negotiations on a basing agreement in June of this year, and are making excellent progress towards a final document. The United States and Romania already have a supplemental Status of Forces Agreement in force.

Finally, Poland agreed in October 2009, to host the Phase 3 SM–3 site. On July 3, 2010, the United States and Poland signed a protocol amending the original 2008 Ballistic Missile Defense Agreement, which will allow for the deployment of a land-based SM–3 interceptor site in Poland. The next step is to bring this agreement into force through ratification by the Polish Parliament. Earlier, in February 2010, the Polish Government ratified a supplemental SOFA [Status of Forces Agreement] agreement with the United States.

Before I close, let me touch on the subject of missile defense in Russia. Like the previous Administration, we believe that missile defense cooperation with Russia, both bilaterally and at NATO, is in the national security interest of the United States. In Lisbon two weeks ago, NATO and Russia agreed on a number of missile defense cooperative activities, including the resumption of theater missile defense exercises.

As President Obama stated, by moving ahead with cooperation on missile defense, we can turn a source of past tension into a source of cooperation against a shared threat. That said, even as we seek greater cooperation with Russia on missile defense, the United States will continue to reject any constraints or limitations on our missile defense programs. Restrictions or limitations on U.S. missile defense capabilities are not under discussion. Let me reit-

erate what Secretary Miller said. There are no secret deals with Russia to limit our missile defenses.

Finally, let me also say that Russia will not have a veto over U.S. missile defenses in Europe or anywhere.

Mr. Chairman, Ranking Member Turner, let me stop there. I will be happy to answer any questions. Thank you very much.

[The prepared statement of Secretary Rose can be found in the Appendix on page 76.]

Mr. LANGEVIN. I thank Mr. Rose for his testimony, and I should also say welcome back, Mr. Rose, to the Congress and to the committee where you served prior to your current position. It is great to have you back, and you are one of two witnesses today that are alumni of the Armed Services Committee staff, the other being Dr. Miller. Welcome back to both of you, I should say.

With respect also to Ms. Tauscher's testimony, I ask unanimous consent that Secretary Tauscher's testimony be inserted into the record.

Without objection, so ordered.

[The prepared statement of Secretary Tauscher can be found in the Appendix on page 81.]

Mr. LANGEVIN. I would ask on a personal note on behalf of myself and the subcommittee to give our best to Secretary Tauscher and we look forward to seeing her in the very near future.

With that, let me turn the first question to General O'Reilly. It is my intention also, I should mention, to do two rounds of questions. I am going to take latitude as chair for an extended period of time, and I will extend that courtesy to the ranking member. And then we will go to the five minute rule for the other members of the subcommittee. As I said, we will go to a second round of questions as well.

Beginning with General O'Reilly, last October the subcommittee asked GAO to evaluate the Department's plans for implementing the Phased, Adaptive Approach for missile defense in Europe. Last month, the GAO delivered a draft report. One of the key conclusions is, "The administration's EPAA policy committed DOD to a schedule that will be challenging to meet based on the technical progress of missile defense element development and testing programs, and before the scope of the development efforts were fully understood."

So, General O'Reilly, could you tell us what measures are being considered to mitigate the consequences of any potential test failures or delays that might lead to production gaps or otherwise result in schedule delays for delivering planned capabilities to combatant commanders?

General O'REILLY. Sir, the plans that we have laid out for each of the elements of the Phased, Adaptive Approach were designed based on traditional development of missile systems and their fire control systems. We have looked at the development timelines, and the ones we have used in the Phased, Adaptive Approach are actually longer than what you can compare them to with our other missile defense programs. So our assessment is this is a conservative set of schedules.

We have also laid in decision points, which I have briefed the GAO on, of different technological maturity levels that will be

reached before we move to each of the development phases of our program. So we deem this to be a very manageable risk and laid out in a very prudent approach to developing these systems.

I will note that some of their analysis was comparing our missile developments of just the missile to system developments, which are more comprehensive. And one of the advantages of using the Aegis system as the mainstay for our capability for the EPAA is we evolve it from one fire control capability to the next, and in between we bring a new missile on board. And that does, in fact, reduce the amount of new technology that has to be applied and also has a more deliberate delivery approach.

Mr. LANGEVIN. Well, as a follow-on, since each successive phase delivers additional capability, how will you mitigate delays for equipment deployment in one phase from affecting preparations for the next phase?

General O'REILLY. The capabilities are developed in phases that are aimed at specific threat classes that we are trying to negate. And, as we said, Phase 1 is aimed at medium ballistic missiles and short-range and intermediate-range ballistic missiles. If we had a problem with the subsequent phase, in each phase it would usually equate to producing or deploying additional numbers of missile defense systems. Since our systems are flexible and since they are mobile, we have the ability to add capability in if we found in fact we needed—we only had shorter-range interceptors versus using longer-range ones of a subsequent phase.

So we believe the adaptability itself of the system allows you to adjust to the capability that is available at any given time.

Mr. LANGEVIN. Thank you, General.

Dr. Miller, the GAO also concluded that "DOD has not fully implemented a management process that synchronizes the European Phased, Adaptive Approach acquisition activities and ensures transparency and accountability. The DOD has made progress in acquisition planning for technology development, system engineering and testing, partial progress in defining requirements and identifying stakeholders, but has not yet developed an EPAA acquisition decision schedule or an overall EPAA investment cost."

Dr. Miller, how do you respond to GAO's concern expressed in the draft report to the committee? Does OSD have the appropriate acquisition plans with milestones and budget, to track progress in each phase of the PAA?

Secretary MILLER. Mr. Chairman, I would like to answer but then give an opportunity for General O'Reilly also to answer as the acquisition executive for the systems and for the missile systems involved here.

At the outset of this effort and, indeed, throughout the Ballistic Missile Defense Review, we looked at the likely costs associated with the Phased, Adaptive Approach and had an overall estimate for those costs associated with missiles, sensors, and so forth. As each of those programs matures, we have seen the refinement of those cost estimates and currently believe that we have a pretty good grasp on what the overall cost of this program will be. One of the uncertainties or one of the choices one makes is how to ascribe the cost of the Aegis BMD-capable ships associated with that. Because they are a global asset, we generally don't include them

in our cost estimates for the cost of Phased, Adaptive Approach for Europe.

Now with respect to oversight of the program, in addition to the Missile Defense Executive Board, which meets regularly and reviews this and other elements of missile defense, the Missile Defense Agency's programs, including all of the Phased, Adaptive Approach-related programs, come in for, as you know, an annual review in the Department and get a pretty intensive scrub. And that has been the case this year, as it was throughout the course of the conduct of the Ballistic Missile Defense Review.

My sense is that we have a very good understanding of what the key technical risks are associated with each of the elements of the Phased, Adaptive Approach and that we have a—and that General O'Reilly and the Missile Defense Agency have a clear, lined-up program of activities that stretch from today through the coming decade for when the key milestones will be, when they need to get key systems on contract, and what other key decisions are.

General O'REILLY. Thank you. Sir, for each one of our programs in the EPAA, as the acquisition executive I have established six baselines—cost, schedule, technical, operational, contracts, and test baselines. This is far more descriptive that is in a typical acquisition program baseline. Ours is more detailed. If there is a lead service involved, like the Navy or Army or Air Force, I have asked and received cooperation from their acquisition executives. So when I sign these baselines, the service that is going to be the lead service for these capabilities also signs the baseline after they have conducted their own reviews. So it is unprecedented that a joint program actually has two service acquisition executives, or the service acquisition executive and myself as missile defense. We perform twice the amount of reviews you would normally see.

Also, as Dr. Miller said, the Missile Defense Executive Board does perform a lot of the duties that a Defense Acquisition Board would perform. So instead of typically having a Defense Acquisition Board review once every two to three years, I have a review once every two to three months. So it is a very integrated, technical management approach. It is very visible. And I have provided those baselines and we will continue to update those baselines over the course of the development of the EPAA.

Mr. LANGEVIN. General, do you have an overall cost estimate on each phase of the PAA and sufficient mechanisms there to track that cost growth there?

General O'REILLY. Yes, sir, we do, and that is part of our baselines, not only for each individual element but also the aggregate, as we understand the definition of the architecture of the EPAA. And the reason I say that is we use an analytical architecture, but it is the combatant commander, the European Command, that determines what the war plans and the actual architecture will be. And that is submitted to the Joint Staff for approval. And that is currently going through that process. I will let Admiral Macy address that. But once that is produced we then can take our unit costs, and very quickly be able to determine precisely what the costs are. But we do have estimates today.

Mr. LANGEVIN. Very good.

Admiral Macy, in April we received testimony from the Department that, "The Joint Staff is leading a review which includes an examination of how the Global Force Management process will incorporate the updated missile defense policy and planning guidance contained in the Ballistic Missile Defense Review. The review will be completed in the summer of 2010. Additionally, the Joint Capability Mix-3 study will determine inventory levels of BMD assets by spring 2011."

Admiral Macy, two related questions. First, can you provide us with an update on the status of the Global Force Management process? And, second, if the JCM–3 study is completed in the spring, how soon do you expect that inventory requirements and associated cost specifics to Phase 2, 3 and 4 can be formulated and made available to Congress?

Admiral MACY. Thank you, Mr. Chairman. The Global Force Management development project was a several-months-long effort to understand was there anything that was different about how you do ballistic missile defense and how you would handle the management of forces? We have for many years, of course, had Global Force Management. It is how you determine which divisions go where, which Air Force fighter squadrons go where, which ships go where in any given year. This is an effort that is run between the Joint Staff, Strategic Command, and Joint Forces Command.

So the study was to look at, okay, is there something different about ballistics missiles that affects that? There were some things learned out of that. Those have been folded into—and it did wrap up in the late spring, early summer. Those have since been wrapped into the effort that I alluded to earlier, which is the ongoing planning effort being led by Strategic Command on how to do management of ballistic missile defense in the different regions at different times and across the globe—the problem, of course, being that you have a finite number of ships, a number of THAAD batteries, a number of TPY–2 radars, and everybody wants them. So the question is, who gets them, and how often, and when do you need them?

We don't envision either the need or the ability to station everything 24–7, 365 wherever we might want it. And that comes into the Global Force Management on what will be, if you will, permanently emplaced; what will be on a regular deployment schedule; and what will be on a surge deployment schedule. That process is going on now. It goes through a series of reviews, culminating with reviews led by the Vice Chairman, and it will wrap up this coming spring. So I would expect that this spring, we will be able to come back and talk to you, on a global scale and on a management scale, how we would do that. Obviously, we are not going to get into the details of individual concept(?) plans, but we will be able to describe to you what we think will be the way we will manage that.

At the same time—and these are interrelated because part of the discussion that you have with the COCOM [combatant command] about what do you think you need in a time of low tension versus what do you need in a time of high tension figures into, how does the COCOM think he is going to fight? As I discussed in my testimony, that drives how you do the JCM–3 study to figure out what

do you think you are going to need—how many interceptors, how many launching platforms, and how many sensor systems.

And so as those two studies wind in and out between each other to figure out what is the answers, they will result in a set of options that the senior decisionmakers can look at and say okay, these are the ways in which I will deploy forces in times of low, medium and high tension and where to, and having decided that, these are how many I need to handle the steady state, and this is how many I need to handle the surge condition. We will be looking at things like utility curves; when do you not have to buy any more interceptors because it doesn't buy you that many more days within a particular conflict? The details will obviously be classified. And when we come back in the spring we will have that discussion. We will be ready to go into a great deal of depth.

So the date answer to your question, if you will, Mr. Chairman, is I hope to personally in the April timeframe be sitting down with your staffs as an initial review of the details preparatory to taking them up to the members of the committee.

Mr. LANGEVIN. Very good. Thank you, Admiral. We look forward to that when it occurs.

My final couple of areas for each of the witnesses, talking about base agreements and NATO integration. I wanted to, first of all, again congratulate you on the recent achievement at the NATO summit in Lisbon in gaining support for territorial missile defense and the PAA. The questions are for Mr. Rose and Dr. Miller.

Looking forward, what are the remaining challenges in ratifying the necessary basing agreements in the host countries and in finalizing a location for the radar site in Phase 1? And then, for General O'Reilly or Dr. Miller, how does the recently announced NATO decision to facilitate integration of NATO members' missile defense systems into a unified NATO framework affect the current EPAA plans?

Secretary ROSE. Sir, let me start with Phase 1. We are discussing with a number of nations the potential deployment of the Phase 1 radar. We are confident that we can meet, from a legal perspective in getting the agreements in place, the timeline of the end of 2011.

With regards to Phase 2, the land-based SM–3 site in Romania, we are making good progress on the Ballistic Missile Defense Agreement. We already have an existing supplemental SOFA as well as a Defense Cooperation Agreement. So we hope to come to conclusion on that soon. I can't give you a date because these negotiations—that is how negotiations go—but we are very confident that we will have the agreements in place for Phase 2. Now that will need to be ratified, the Ballistic Missile Defense Agreement, by the Romanian Parliament. But we have been told by the Romanian Government they don't foresee any challenges.

With regards to Phase 3 and Phase 4, in Poland we signed a protocol this July to the 2008 basing agreement and we are awaiting ratification of that agreement by the Polish Parliament.

With regards to NATO, now that the political decision has been made, the individual committees—the operational side of the house, the technical side of the house—will begin to do the work to implement that decision.

Secretary MILLER. I will just add very briefly with respect to the TPY–2 radar which we intend to deploy by the end of 2011, we currently have a couple deployed overseas there. They can be moved relatively rapidly. As you know, Mr. Chairman, as you know, we have one in Japan and we have put one in Israel. And we are still confident that the timelines for moving that equipment and getting that established are very achievable.

General O'REILLY. Sir, and I would like to add as far as from point of interoperability, our systems were built from the beginning using NATO protocols and NATO standards so that our systems are interoperable with other systems that have been built to NATO standards. As I said in my testimony, the most effective missile defense is to have layers so you can have several opportunities to intercept an incoming missile. The U.S. contribution to NATO and EPAA is primarily an upper-tier, what we call, would be your first shot opportunity, either in outer space or in the upper atmosphere. Our fire control systems will be interlinked with the Active Layered Theatre Ballistic Missile Defence System that NATO is developing, which would coordinate the utilization of their lower-tier systems, such as Patriot and some of the early Aegis missiles, and some of the other missile defense systems that they have already procured. So we will maximize the combined capability of both.

We began two years ago with a direct link between the testbed. The laboratory that NATO uses to develop their command and control in Den Haag is directly connected with our laboratory in Colorado Springs, so that as we develop software we assure ourselves that they are interoperable, and we have taken that into account and it is a very useful tool having both of those for further development of command and control approaches.

Sir, from an operational point of view, I would defer to Admiral Macy.

Admiral MACY. Mr. Chairman, I have, in one of my other hats I have the privilege of being the U.S. representative to the NATO Air Defense Committee and, as such, have been involved in these discussions for quite some time. NATO has been discussing this over the past year at some length. There have been a number of position papers done. The NATO Air Defense Committee has done a number of papers coming out of previous tasking at the Strasbourg-Kehl summit of several years ago. There has already been initial CONOPS [Concept of Operations] development going on. It is both convenient and useful, of course, that the Commander of European Command is also SACEUR [Supreme Allied Commander Europe] and the Commander of U.S. Air Forces Europe is the NATO Commander AIRNORTH [Allied Air Forces Northern Europe]. So those staffs have been involved and already looking at what are the CONOPS, what are the processes and procedures.

After Lisbon, the Secretary General has given direction that a number of committees look at this and be prepared to answer in some detail next spring such issues as CONOPS and command and control. So between that approach, of course, NATO and the United States have shared command and control for air defense for a great number of years. So we know how to do that, and we take that, and using the systems, as General O'Reilly mentioned, that have been built in conformance with NATO specifications, we believe we

are very well positioned to integrate the U.S. PAA contribution to NATO into the NATO BMD capability.

Thank you, sir.

Mr. LANGEVIN. Very good. I want to thank the witnesses for their answers to my questions. With that, I will now turn it over to the ranking member for his questions.

Mr. TURNER. Thank you, Mr. Chairman. In addition to recognizing your service before we go on, with this being the last hearing of the subcommittee, I want to recognize Bob DeGrasse and Kari Bingen for their leadership roles in the staff in this committee. I think in the subcommittee we have had a very bipartisan relationship. And I know that I can attest and I know, Mr. Chairman, that you would also, that both Bob and Kari have worked diligently to ensure that both the subject matter and the members approach issues from a bipartisan basis. So I appreciate both Kari and Bob's service and look forward to your dedication as we go into the 112th Congress.

Gentlemen, almost all of you when you were giving your statements gave us some sense of the obvious criticism that I know you feel of the suspicion that there is a "secret deal" with Russia; that Russia might have veto power over our missile defense systems and that this Administration might agree to limitations on our missile defense. In fact, Dr. Miller, you state in your testimony on page 7, ". . . the Administration has made clear to Russia and Allies that the United States will not agree to any limitations or constraints on U.S. ballistic missile defenses, and that the United States intends to continue improving and deploying BMD systems."

The problem, gentlemen, I think is that the Phased, Adaptive Approach, though, is borne out of a limitation and a constraint that has been placed on our missile defense system. By having scrapped the third site where the ground-based missiles were intended for Poland, including the radar that was included to Czech Republic, this Administration unilaterally put a constraint and limitation and proposed, then, the Phased, Adaptive Approach, which was not mutually exclusive to the third site. It includes systems that were concurrently being developed. And that is an issue, I think, that puts a light over the issue of the Administration's need to continue to say that they would not agree to limitations because they stepped forward initially with one.

The second issue, I think, that causes each of you in your testimony to have to raise this issue is the fact of the statements that the Russians themselves are making. I have the Moscow Times report today about President Medvedev's state of the nation address where he is reported to have said he warned the West that if NATO doesn't reach a deal with Russia of the joint development of an anti-missile shield over Europe, a new arms race would start in the next decade and Russia would be forced to build up its offensive strategic forces.

The Washington Post reports Putin having said that "if the missile defense system excludes Russia and includes installations along Russia's borders, Moscow will see that as a threat and be forced to respond with an expansion and updating of its own weapons systems"—this at a time when the Senate is being called to take up the issue of the New START Treaty where you have the

Russian leadership specifically singling out missile defense as a threat to their willingness to comply with the treaty that our Senate is now being asked to concur in.

Which brings me to the issue, I think, that I would like you to deal with today, and that is the issue of since the third site was scrapped and the two-stage was preserved, according to the Ballistic Missile Defense Review, as a hedging strategy for homeland defense in case, one, the long-range threat comes earlier or, two, technical issues arise with the later models of the SM–3 interceptor, it brings me to a question of, well, how do we evaluate this hedge? At what point would the Department make a decision to employ the hedge? What criteria would be used? And what threat indications and warning would you need to see ahead to make such a decision to deploy that two-stage? How long would it take to deploy if the decision is made so? And the third one is, in light of the statements that we saw today from the leadership of Russia, does your hedge strategy, if it is needed to be deployed, already violate what the Russian leaders are saying would be their continued commitment to the New START treaty?

Dr. Miller, your thoughts.

Secretary MILLER. Mr. Turner, if I can, let me start by taking exception, if I can, to your characterization of the Phased, Adaptive Approach as a "limitation." Frankly, the conclusion of the missile defense review work that we did and the conclusion of people at multiple levels in the Department of Defense is that it was a better idea, a better approach that would provide more capability sooner for the threats we have today and a more important delta to the capability for the longer-range threats we may see in the future. And I will come back to that point when I talk about hedging.

With respect to Russian statements, we can expect the Russian Federation to do what is in its national interest. We are, of course, committed to do what is in the United States' national interest. And the idea behind the ballistic missile defense cooperation is that in this area, because we both face threats from Iran and, potentially, other states, that there is room for cooperation and there is room for both of us to advance our interests and improve our security, and similarly for NATO and Russia through the NATO–Russia Council, that there is room for both to improve security.

I will state, as well, that there is a long history of many in Russia wanting to slow down the U.S. missile defense program. I don't think that we could be any more clear about the fact that we will not accept that and we will go forward and continue to improve our capabilities, both qualitatively and quantitatively.

With respect to the question of the hedge, I think it is useful to think in terms of timeframes. If a missile—if an ICBM threat from Iran were to arise prior to 2017, the two-stage GBI is not going to be an effective hedge for that time window, from today to then, because that is about as quickly as we would expect that we could get it in place. And that is about when it would have been in place under the previous approach.

So it is, I think, useful to remind ourselves that the first hedge—let me back up. The first objective of course is to prevent this from occurring in the first place. And that is what the sanctions with respect to the nuclear program are about, and what the pressure

track is about, as well as our offers for diplomacy, should they go that way. But it is useful to remind ourselves that we currently have deployed 30 ground-based interceptors and that these interceptors are intended—in fact, capable—of providing defense of the United States.

The next hedge that is applicable before 2017 is that the Secretary of Defense last year made a decision to finish off Missile Field 2 at Fort Greely. And that means if we see an additional threat in terms of the quantity or the quality that could cause us to want to allocate more interceptors to a given re-entry vehicle if we thought it was a more sophisticated threat, those eight interceptors will be available, and those silos will be prepared.

So within that timeframe, within the next seven years, that is what the hedge looks like. So the two-stage GBI really comes into play in the 2017 timeframe and later. And what we would look for is a combination of progress, if you can call it that, in the Iranian nuclear program and ICBM capabilities. And I think it is probably preferable not to go into details for indicators and warnings but I think it is fair to say that you look at not just the independent activities of those two but the efforts to make them and to provide a weaponized capability.

You noted that some assessments have suggested that Iran could have a capability potentially as soon as 2015. I don't take exception to that. There is a tremendous amount of uncertainty about the timeline. But, as I said, the first thing that it is essential to remember is that we have capabilities in place and we are prepared to augment them in that timeframe with our ground-based interceptors. And the rest of the hedge will come in later.

With respect to the technical hedge for the—if there are challenges with later versions of the SM–3, we will see those in the coming years and then have a decision to make—if that is indeed the case—the decision of whether to attempt to correct the program, to simplify the program, to accelerate the program, *et cetera,* versus to bring in another capability, will be at that point on the table.

Mr. TURNER. Before we go on, Dr. Miller, let me go back because there was a lot in that answer so let me try to break it down. The Ballistic Missile Defense Review states that the hedge for the two-stage is, in case one, the long-range threat comes earlier or, two, technical issues arise with later models. Now you don't disagree with that, right?

Secretary MILLER. That is right.

Mr. TURNER. So for this to be the policy and for this to be the policy that you agree with, it must mean that the hedge would be available prior to the Phased, Adaptive Approach being available because otherwise it wouldn't say earlier. Is that correct?

Mr. MILLER. Yes, sir. As you know, the Phase 4——

Mr. TURNER. Pause for a second. I just had to ask you this because you said the Phased, Adaptive Approach was going to be here sooner. And I just wanted to be clear because my understanding of the Ballistic Missile Defense Review was that the hedge was in case it was needed earlier than the Phased, Adaptive Approach would be available. And I just want to make certain you didn't dis-

agree with the Ballistic Missile Defense Review, because that is what we have been operating on.

Secretary MILLER. I agree with the Ballistic Missile Defense Review and my comments about the Phased, Adaptive Approach providing capability earlier are with respect to the earlier phases of that Phased, Adaptive Approach.

Mr. TURNER. But not the portion that relates to protection for the United States homeland and the protection that the two-stage would be providing.

Secretary MILLER. Specifically, the two-stage GBI is a hedge. One of its functions can be as a hedge against challenges with Phase 4, which is the Standard Missile-3 IIB, homeland, which is intended to provide another layer for the United States. It will also provide an additional capability for ascent-phase intercept for medium-range and intermediate-range ballistic missiles as well.

Mr. TURNER. Good. Now in light of the comments—and I know you are well versed in all the issues of START and missile defense—in light of the comments that we are hearing from Russia, if you were in a position to deploy the hedge do you believe that their statements indicate that deployment of the hedge would be a violation of their perspective on START?

Secretary MILLER. Mr. Turner, I don't believe so. I have not seen a definitive statement in that regard. But I can say with some confidence that the answer to that would not affect the decision made, certainly, by this Administration, whether or not to go forward with the hedge. The statement that there will be no constraints or limitations on missile defense certainly applies to the hedge as well as to all other elements of our program.

Mr. TURNER. Walk me through, then, for just a moment as to the timeline of the hedge. If next week we were to a position where the hedge was to be pursued because the threat had either come earlier or that we are now aware of technical issues with the later models of the SM–3 interceptor that moved your timeframe back, what is the timeframe for the deployment of the hedge?

Secretary MILLER. For the two-stage ground-based interceptor, the soonest that we currently expect that we would be able to deploy in Europe would be in the ballpark of 2017. That is what the estimate—the estimate previously, at one point it looked possible to deploy earlier as we had delays in movement forward with the previous Administration's plans. That slipped from an initial goal of 2013 to a later goal of 2015. And ultimately, because of the requirement to conduct additional testing and then the delays, also, in ratification for the Poland and the Czech Republic, that slipped into, I would say, the 2016 to 2018 timeframe.

Mr. TURNER. Is that a rolling six to seven years then? You say 2017 now but, I mean, let's say it is three years from now and we are to have deployment. Are we still dealing with that type of delay?

Secretary MILLER. There are steps that we can take to shorten that timeline, and I think General O'Reilly can talk to that for a moment.

General O'REILLY. Yes, sir, there is. Under the previous plan it was a six-year development of the missile field. The six-year development was triggered on successful testing of the two-stage GBI.

We did a successful test, the first of three, in February of this year—I am sorry, June of this year. And then we will next year have our first intercept. And then we have another two-stage GBI test currently scheduled for 2016. However, a two-stage GBI is configured like a three-stage, and we confirmed its performance last summer, except the third stage is literally missing. I mean it literally is the same length and everything is a three-stage. So the two-stage GBI, we believe, you can accelerate the qualification and the certification and the other requirements that were previously put by Congress on the performance of the two-stage before you begin construction. We completed 35 percent of the design of the missile field. So we archived all of that information. And so if we had to execute, we could in fact reduce that six-year down to perhaps one or two years shorter than that. Again, our trigger is——

Mr. TURNER. From five to four years.

Secretary MILLER. Yes, sir. That wasn't our current plan that we had previously, but that is what you would do if you had to shorten the construction cycle. And we were relieved of the requirement of continuing several tests of the SM–3 or—I mean the two-stage GBI.

Mr. TURNER. And the reason—and I know you gentlemen are aware of the reason why I am asking the question, is to evaluate the viability of the hedge. I wanted your thoughts on will it be viewed as violating the Russian's view of START? Can it be delivered on time? If the threat is there that would cause you to turn to the hedge, can you really deliver the hedge in a timeframe where it would be effective?

And it sounds like your time periods—six, five, four—that you can shorten it somewhat, but you still have a relatively long lead time for the hedge to provide that protection to the U.S. homeland.

General O'REILLY. Sir, the next expansion of capability that we have is—and there will be several independent reviews that Congress has asked for and will receive. And they all indicate that the greatest capability that is needed, if there was a need for a hedge, is not specifically more interceptors. It is more capability to do discrimination and sensor management and so forth. And that aspect of the previous program we are actually accelerating over the EPAA—as I mentioned, the upgrades of the new radars. And we do have greater capability being developed on an accelerated level to help us with discrimination, which independent assessment indicates is where your greatest need would be. If you wanted additional firepower beyond adding eight missiles, which the timeframe for that is on the order of eight weeks to complete the population of the missile field, the next step would be to expand the number of refurbished missile field number one, which is about a two-year—it would take two years to do that. So we do have some intermediate steps which you could employ if, in fact, a hedge was necessary that could shorten going to a deployment in Europe of several years to build a new missile field.

Mr. TURNER. That just goes to the Ballistic Missile Defense Review, I mean is the document of course that states that this will be a hedge and the two criteria for the deployment of the hedge. And I am just trying to evaluate, do you see a scenario in which that hedge would be deployed; would it be there timely, would it

be viewed as a violation from the Russians? So maybe I need to ask that in a different way, Dr. Miller. I mean, do you see a scenario in which the hedge would be deployed?

Secretary MILLER. Sir, I think that that scenario is quite unlikely and I think it is——

Mr. TURNER. So do you not see a scenario in which——

Secretary MILLER. No, sir, I think it is unlikely. And I think it is unlikely for the following reason. And that is that we have a good program in place for Phased, Adaptive Approach. We have the capabilities coming into place that will allow testing in the next several years and will allow us to get a good sense of the SM–3 IIB and the technical risk there. If we discover at that point that the test history and the modeling that has led to the parameters of the system are incorrect and can't be rapidly adjusted, then we have a decision—and General O'Reilly may want to talk about the timeline—in that timeframe to go for the hedge. I think we have done, and MDA and our teams have done, the analysis deeply enough that that technical hedge is unlikely to be necessary.

With respect to the hedge for—but we are talking about obviously the protection of the United States, so that is why we, despite a low probability—there is a low probability, we hope, of an attack in the first place—but this is why it is still valuable to do this hedge.

With respect to the hedging against an earlier arrival of the threat, as I said, I think you have to think about that in a different sort of layer, and that is that if it comes very quickly there is not going to be time to deploy a two-stage, even when compressed, and then the addition of GBIs at Fort Greely, is going to be a sensible thing to do.

Mr. TURNER. Dr. Miller, I really was not asking you a probability question. I mean I understand that I am certainly with you on the issue of let's certainly hope and have an expectation that the probability of any of these circumstances would be very low. However, the Administration in the Ballistic Missile Defense Review did establish this as a hedge. And so I want to make certain that this language is not meaningless. And, therefore, my question to you of do you see any scenario where the hedge is deployed——

Secretary MILLER. I will give you a shorter answer, sir. Yes, the scenario would be either when there is a technical problem with the SM–3 IIB that we don't see solving quickly. And that would be something that we will have insight in the next few years. And then if we see an Iranian capability for ICBM nuclear capability and its integration arising, then we will need to look hard at that hedge and whether, depending on what occurs, whether to try to accelerate the SM–3 IIB and/or to look to deploy a two-stage ground-based interceptor.

Mr. TURNER. Thank you. The whole concept of a hedge, by the way, is this issue that we are all struggling with, which is a gap where the threat emerges or arrives prior to the capability being deployed. The concern with the Phased, Adaptive Approach and the number that you had indicated of the ICBM threat of perhaps being 2015 when we know the Phase Adaptive Approach doesn't provide a response to that threat until 2020 provides us a five-year gap of which we have a concern, but as our whole discussion with

respect to the hedge and other issues of technical capability goes to, the emergence of that threat and the acceleration of our facing that threat posing, then, a wider gap between technical capability and present threat. Which takes me to the next portion of my questioning.

When the White House announced the PAA last September, it said the new approach was based upon an assumption that the long-range missile threat was "slower to develop." Recent reports indicate that Iran perhaps has 19 BM–25 advanced ballistic missiles that it acquired from North Korea in its arsenal that are capable of reaching Berlin and Moscow. Now, in all the hearings that we have had and all the discussions that we have had about the capability of Iran, the discussion of—the issue of the possibility of their acquiring this capability instead of just merely developing it has always been raised as an accelerator.

When is the Phased, Adaptive Approach expected to provide coverage to Berlin? If the threat to Berlin, other Western and Central European population centers exists today, according to these reports, and the Phased, Adaptive Approach won't cover these areas until 2018 at the earliest, then there would appear to be a present gap in the defensive coverage of Europe. What options are available to accelerate coverage of Europe; what appear to be very near-term threats; and any other thoughts that you would like to provide us on the issue of these reports?

Secretary MILLER. Mr. Turner, I don't want to speak to intelligence assessments in open session either to confirm or deny the accuracy of the information that you have put out.

Mr. TURNER. Well, it is information that is being reported. This is out in the public. This is not something that is in a classified discussion that we are having. What I have asked you is this is what is being reported; your thoughts, and how does that relate to the issue of a possible gap that we might have?

Secretary MILLER. One of the advantages of the Phased, Adaptive Approach is that it is adaptive, and that if we see something coming earlier, we have the possibility to accelerate first by moving Aegis-capable ships with SM–3 interceptors and as the later interceptors come online, to be able to put them in additional locations as well.

General O'REILLY. Sir, and if I may, without referring to, again, commenting on sensitive intel information, if you just looked at the distance of what you have said in your question between Berlin and Iran and other locations in the Middle East, if you take that distance, next spring we are actually intercepting a target of that range with our Phase 1 capability. Again, we have said we took a very conservative approach to developing the EPAA. But just to use the type of distances you are referring to, which is in the range of an intermediate-range ballistic missile, we said we would deploy in Phase 1, in my testimony, intermediate-range ballistic missile range, which is the range you are talking about to Berlin. And that will be Phase 1 capability. And we are testing live fire tests next spring against that range.

Mr. TURNER. Mr. Rose, you indicated that there were no secret talks ongoing, which we are all very glad to hear, of course. But press reports do continue to surface that Under Secretary of State

Tauscher and her Russian counterpart are negotiating a missile defense agreement. Also, we are told that Secretary Tauscher signed out a Circular 175 memo last May for a missile defense agreement with Russia. According to the State Department's Web site, a Circular 175 refers to regulations developed by the State Department to ensure the proper exercise of the treaty-making power and seeks to confirm that the making of treaties and other international agreements by the United States is carried out within constitutional and other legal limitations.

What is the exact nature and scope of the missile defense negotiations that are going on with Russia, and would you please tell us the contents of the Circular 175?

Secretary ROSE. Certainly. Thank you very much, Mr. Turner. Let me start by saying that our discussions are focused strictly on cooperation. We are not discussing limiting our missile defenses in any way. Now, in order to facilitate cooperation, sir, you need to have an agreement in place to exchange information. Back in 2004 the Bush administration began negotiating with Russia a Defense Technical Cooperation Agreement. What this agreement was, was a broad framework that allowed the two ministries of defense to exchange information not just on missile defense, but a variety of issues.

The last DTCA, as we call it, negotiations with Russia were held in 2008. Now, earlier this year this Administration decided to propose a more limited form of the DTCA which would only address missile defense issues, the Ballistic Missile Defense Cooperation Agreement. Basically, what the BMDCA was, was very simply a framework agreement which established a cooperation working group and it basically was a framework in which you could stick individual projects under that.

For the record, we specifically included language in the agreement that said, "This agreement shall not constrain or limit parties' respective BMD plans or capabilities numerically, qualitatively, operationally, geographically, or in any other way." Now, we made this proposal to the Russian Government last spring and they said that they were not interested in negotiating a Ballistic Missile Defense Cooperation Agreement at that time. What we understand, and I will defer to Dr. Miller, is recently the Russian MOD [Ministry of Defense] has indicated an interest in restarting the negotiations on the broader DTCA.

Sir, with your question about what Circular 175 authority is, it basically is a relatively routine matter in the State Department to ensure that when there is any international agreement, whether it be a supplemental SOFA, R&D [research and development] agreement, that there is adequate coordination across the interagency and that U.S. foreign policy objectives are fully—it is aligned with overall U.S. foreign policy objectives. So let me defer to Dr. Miller if he wants to add anything on the DTCA and the future of that.

Secretary MILLER. Mr. Rose is correct that it appears there is now at least a possible interest to have discussions to move toward a DTCA, Defense Technology Cooperation Agreement. What the scope of that will be is to be determined. The idea is to be able to have an umbrella agreement that then allows us to discuss possible technical cooperation in a number of different areas.

Mr. TURNER. Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the gentleman. We are now operating under the five-minute rule, and the chair now recognizes Mr. Franks.

Mr. FRANKS. Well, thank you, Mr. Chairman. I got here just in time to be here under the five-minute rule.

Gentlemen, I appreciate very much your being here. As happens quite often, Mr. Turner has stolen all of my questions. I will do a little variation here.

General O'Reilly, you know, I know that you have had to deal with a lot of questions about the Phased, Adaptive Approach, and I want you to know that there is certainly no adversarial perspective in my mind at all, because I think you are doing a magnificent job and I think we are blessed to have you where you are in this country, and I am personally very grateful for that.

That said, there is a lot of discussion about the PAA being suggested or touted as capable of providing a greater coverage sooner to all of our European allies compared to other missile defense plans, and I will just try to make that a general comment. But the previous approach of utilizing interceptors in Poland and radar in the Czech Republic was forecast at the time to provide about 75 percent coverage of our European allies against longer-range missiles by 2013, with the remaining 25 percent of southeastern Europe covered with U.S. and NATO shorter-range missile defense systems.

Given the timeframe of PAA, do you think that it will live up to the expectation of having greater coverage sooner, especially given the reality, it seems, that the Phased, Adaptive Approach has developed a little slower than we thought, and we and our allies are already, in my mind, perilously vulnerable to a ballistic missile threat given especially with Iran having new missile capability brought in from North Korea.

Was there enough of a question there for you to pull out an answer?

General O'REILLY. Yes, sir, except for the comment that the Phased, Adaptive Approach, sir, was slower than——

Mr. FRANKS. Do you believe that the Phased, Adaptive Approach is developing as quickly as you anticipated?

General O'REILLY. Yes, sir. We are in track for Phase 1, which will be next December. By then, we will have all of the capabilities that we have described delivered. And each one of those milestones are, in fact, the final date for the last delivery of a capability. But we are going to be delivering capability as it comes on board.

For example, the fire control system for the next Aegis ship that is a Phase 2 capability, the Navy will be certifying that operationally next summer. So we will be three years ahead in that regard. So, again, we were very prudent and conservative when we laid out this, but we are delivering capability as soon as we can and we are testing it in an integrated fashion. For example, as I said, we are testing against an IRBM next spring with the Phase 1 capability.

So, sir, I do believe we are on line to have a significant amount of schedule margin so that if we do have problems in development—and they do occur—but we have taken that into account his-

torically, and we will—we have a very high confidence level to meet these milestones for all four of them.

Mr. FRANKS. And it remains your perspective that we will have greater coverage sooner with PAA than we did with the European site.

General O'REILLY. Yes, sir. With the European site, the coverage was limited by the time of flight of a GBI. The missiles we are talking about now fly significantly shorter in time and, therefore, they can engage earlier. That is why we have a site in Romania that has been chosen, and a third site, it was in Poland, which is significantly further back. So from that vantage point, we do have a significant amount of coverage.

Sir, and I respect your question on coverage, but I will say a major factor in our assessments was raid size. And having 10 missiles and deciding you needed more, it would take several years to expand a missile field, where in this capability you can expand it in weeks to additional sets of missiles.

Mr. FRANKS. The last question—well, kind of a two-part question. The BM–25s from North Korea in Iran, do you think that those present any new issues that Phased, Adaptive Approach should take into consideration? And, secondly, if there is any area of coverage and reach, given the shorter arm of SM–3s, are there any areas that you feel like should be of special consideration to the committee or to the MDA?

General O'REILLY. Sir, again, I cannot comment on intelligence-type information in this forum, but as I said in my testimony, we will have intermediate range and demonstrated intermediate-range ballistic missile capability next spring, before we deploy. And we have already shown we have very robust, 10 intercepts with the Aegis system of short-range missiles, and we have had seven out of seven intercepts with the THAAD system.

Mr. FRANKS. Well, seven out of seven is close enough.

Thank you, sir. Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the gentleman.

We will now go to round two, and I have only one question, and General O'Reilly is the lucky winner of the question.

Getting to costs, again, and contracting, General, first of all again, I do want to thank you for your testimony here today as well as your ongoing engagement with this committee's efforts in pursuing information on missile defense efforts, and your overall effort has been stellar, an outstanding and a great service to the country.

While the PAA is designed to move current technology into defense of Europe as soon as possible, there are clearly large technical developments required to achieve a lot of phases of the strategy. As we have seen with previous efforts for our domestic architecture, these large systems are initially bid through open competition, but it seems that once the initial contract is done, there are many years of sole-source follow-on contracts to provide support to these systems. This can obviously drive up long-term costs of large defense systems because it limits competition in later phases of the contract.

So, General, my question to you is how does MDA plan to reach these aggressive development goals while keeping costs low? Is there any thought about working more with industry to better le-

verage the research and development efforts already in development at small- and medium-size businesses in terms of upgrades and support?

General O'REILLY. Yes, sir, there is. First of all, in our advance research area, we have over 340 contracts that are with small businesses and universities today, and they are focused on the technologies we need for the later stages of the Phased, Adaptive Approach, and I am constantly engaged with small business.

Second, in our larger contracts. I have required that they submit a plan of how they are going to utilize small business, and we have made it award fee criteria that we evaluate the large businesses on how they comply with the plans they proposed at the time of award.

We are also going through a very large series of competitions, and some of these competitions are programs that have not had competition in over a decade. For example, the ground-based midcourse defense contract is up for competition.

We make our decisions on to compete or not, not on the aggressiveness of the schedule, but on evaluating and surveys and input from industry, to see if there is more than one source out there that is a viable source. And we have had great cooperation from industry, and in some cases some of our proposals have had over 10 industry teams indicate they are willing to propose. That is what we use for our criteria.

In the case of the Aegis Ashore, we have extended the current Lockheed contract because they are the ones that developed the Aegis system to begin with. But we have also notified that after the initial deployments of taking the Aegis system on a ship and building it as close as possible to the one on land so that sailors don't have to go through retraining or anything when they are using—or the logistics system—after we do the initial deployments, we will compete that also.

So, sir, there is no contract in MDA which we have designated will not be competed in the future.

Mr. LANGEVIN. Good. I appreciate your answer. I have to say that that is encouraging to hear. It has been kind of a pet peeve of mine that we have these big legacy systems, and I have heard this from numerous small- and medium-size businesses, that they find it frustrating to be able to offer a product that might be much more effective at a lower cost, because there is just so much upfront investment that the big companies have made and so much investment that it makes sense for them to want to stick to the current technology and not do the upgrades. Again, small businesses have been frustrated and shut out in a lot of ways.

But I am encouraged by your answer, and I hope that continues to be the case. Getting a better product, especially as technology improves so rapidly, and being able to get it at a lower cost, would benefit not only capabilities, but also the taxpayer.

With that, my questions are completed. I will turn to the ranking member for round two.

Mr. TURNER. Thank you, Mr. Chairman. I have just got two things I would like to ask.

General O'Reilly, I would like to go back to your response on the issue of the emerging threat from Iran, the evolving threat from

Iran. Our discussion, and, again, our concern here is to try to find where the gaps are and how we are going to be able to respond to those gaps.

The Phased, Adaptive Approach, viewed in the light of the scrapping of the third site is an approach that is in a race against emerging threats. The information that we had had about the Phased, Adaptive Approach, just conferring with staff, was that if the scenario is Iran and Berlin, that it is coverage that is not available until 2018. You indicated in Phase 1 you will have some intermediate-range ballistic missile effectiveness.

If you could confer with our staff and provide us the information on that, because it is different than what our understanding is of your phases. We hope, of course, that every time that there is a gap that is identified, that your system is, as you all have described it, evolving and responsive so that we can respond to those gaps. So if you would please provide that information, I would appreciate it.

The second thing goes again to the comparative of the Phased, Adaptive Approach into the system that was scrapped. The third site, and including the radar that was intended for Poland and the Czech Republic, would have provided coverage for the homeland of the United States and also provided coverage, as Mr. Franks was saying, for 75 percent of Europe. But there was coverage that was provided to homeland United States.

In looking at the Phased, Adaptive Approach, as you all have acknowledged, Phase 4 is where coverage to the United States comes in, and that is the 2020 timeframe. The prior phases, 1, 2 and 3, are fairly focused on protecting Europe, and yet the United States is fully funding the Phased, Adaptive Approach, as near as I understand it and as I think our committee understands it.

With that shift of shared benefit arises the question of shared contribution. I know we certainly are all very excited of NATO's interest in NATO-izing a missile defense shield, but what is the current Administration's approach to contributions from NATO Allies for the Phased, Adaptive Approach?

Secretary MILLER. Mr. Turner, as you know, we view the European Phased, Adaptive Approach as a U.S. contribution to missile defense for NATO. We have a vested and a very strong vested interest in that because, as you also know, we have more than 100,000 troops there and we have, of course, additional Americans there as well. So there is something very directly, from an American perspective, involved in being able to defend in Europe. We also, as you know, conduct operations and move our forces through Europe and the European Command's area of responsibility as well.

Now, with respect to shared resources, each of the countries in NATO that wish to contribute at the lower tier, or if they contribute to an upper tier, will obviously fund that themselves. And we have the shared NATO resources into it, which each nation contributes for the Active Layered Theatre Ballistic Missile Defence Programme, which is the command and control elements, that both will make the Phased, Adaptive Approach plug in to the lower-tier systems and allow the lower-tier systems and any other upper-tier systems that are provided in the future to be able to work more effectively together.

So you have got national contributions, including from the United States; you have got the NATO contributions for ALTBMD [Active Layered Theatre Ballistic Missile Defence Programme] and the work involved in integrating those systems; and then you have got the countries that have Patriot and other systems in Europe that will then tie into that and then fund those capabilities.

Secretary ROSE. Mr. Turner, I also think it is important that we note the important contributions of land and territory that Romania and Poland are providing to the PAA, to the defense of the United States as well as to the defense of the Alliance as a whole.

Mr. TURNER. Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the ranking member.

Mr. Franks is now recognized for five minutes.

Mr. FRANKS. Thank you, Mr. Chairman.

I guess to couch the question in a way, General O'Reilly, that will not create a need for you to touch on anything sensitive, I think Mr. Turner's phrase was it is a race, and certainly that seems to be the case. So I have two questions.

Given potential vulnerabilities that we have, what areas of the Phased, Adaptive Approach, the knowledge points, or what areas, the milestones, would you like to see accelerated, given the potential threats that are emerging?

General O'REILLY. Sir, I do agree it is a race. The race, though—my perspective is, is not with the ICBM. The ICBM threat—again, we have 30 missiles. Even if you shot four against any one missile, 30 interceptors, even if you shot four interceptors, you would need more than seven simultaneously launched ICBMs in order to overcome our current system. So we believe that is a great capability, and as I alluded to, we are in fact upgrading the sensors and other parts of the system to make those 30 interceptors much more capable. So that is for homeland defense.

However, if you do not count the United States, Russia, China, or any of the European countries, there are still over 6,000 missiles out there, and that is where our capability is needed greatest. We have over—we are approaching about 1,000 Patriots, and we are increasing rapidly the number of Aegis against short-range ballistic missiles but that, by far, is where we are outpaced and outnumbered, and that is where our focus is on accelerating that early capability—this and Phase 2, from a global point of view.

I would defer to Admiral Macy to elaborate on that.

Admiral MACY. Really, the only thing to add is to refer back a little bit, sir—I don't think you had a chance to join us——

Mr. FRANKS. And I apologize for that.

Admiral MACY. No, sir, please, I wasn't going there. Along with the JCM–3 study that we are doing to look at the number of interceptors and sensors and launch capabilities we need, we have a parallel planning going on within the Joint Staff and the COCOMs on how to fight in these areas. And we are looking at, okay, we are currently outgunned in the interceptors versus threat missiles. We expect that will, frankly, continue. So the question is how do you most effectively fight, how do you fight in such a way that you bring other elements of national power into the fight to end the fight as soon as you can do it? But certainly in the near term, I don't think it is going to be a great flash of brilliance to anyone

on this committee that additional sensors and additional interceptors are going to be requisite.

What we can't answer to you right now is sort of, what is the upper end, what is the total cost? And we hope, once we get through these studies that I promised the chairman, I would look forward to coming back in the April timeframe to discuss with you, it will start to give us that answer. But in the near term, certainly, interceptors and sensors is the key, and every one of the combatant commanders is screaming for more.

Mr. FRANK. General O'Reilly, let me take off of a comment that you made related to ICBMs. Obviously we are hoping that Iran is not going to be in a position to have ICBMs any time in the next few days. But given that concern, with the SM–3 capability and given that SM–3 at least at this point is sea-based, when do you anticipate an ability to intercept ICBMs coming to America from Iran?

I realize that is pretty fundamental. But when do you anticipate that? I know there is no way to anticipate when they will have them. But when would you anticipate being able to, if it is just one—I know the raid issue is always a second question—but if it is just one ICBM coming from Tehran to New York, when we would be able to, with high likelihood, be able to intercept that? I know that is still a redundant coverage, but when we would be able to gain that redundant coverage?

General O'REILLY. Sir, due to the number of interceptors which we have, the probability will be well over in the high nineties today of the GMD system being able to intercept that today. Again, our calculations along the same line say the number would have to be greater than seven, simultaneously launched, to start lowering that. And that is today.

Mr. FRANKS. I am aware of that. But that is our GMD here.

General O'REILLY. For the SM–3, I believe your question was for the SM–3 IIB.

Mr. FRANKS. I am talking about redundant coverage in Europe.

General O'REILLY. Yes, sir. For the SM–3 IIB, our plans that—we, again, are in a competition to have companies come in and propose—but using historical plans, our first flight testing will be in 2016, and that is a significant indicator of the integration of the missile and its performance and how it performs with the Aegis system.

Unlike other missile systems, the Aegis system is already our backbone. So we can focus on just the missile development and, way before that, our ground systems and ground testing. But the first flight testing would be 2016.

Mr. FRANKS. So potentially as early as 2017, 2018, we would have redundant protection over and above our GMD on shore—or I should say at Vandenberg and Fort Greely—we would have redundant protection from a potential ICBM coming from Iran as early as 2018?

General O'REILLY. Sir, during that period of time, during 2017, 2018, 2019, that is when we have our prototype missiles that we are testing. The actual production missiles, the plan is for 2020. That gives us four years of flight testing besides all of the ground testing.

Mr. FRANKS. Thank you, sir, and thank you, Mr. Chairman.

Secretary MILLER. Mr. Franks, Mr. Chairman, might I say something very briefly?

Mr. Franks, when you talk about redundant capability, I think it is important to understand that the two-stage GBI is still a GBI. So if you have a problem such that the three-stage ground-based interceptors at Fort Greely and Vandenberg don't work—and that is one of the reasons you are thinking about an independent capability—there is a high probability that that same problem would apply to the two-stage GBI. That is one of the big reasons why we see so much value in a different approach with the SM–3 IIB, because it has different phenomenology, a different set of capabilities.

You can compensate for not having a two-stage GBI by launching more three-stage GBIs from the United States, and in any event, you are down to very small probability differences associated with intercept; because as General O'Reilly said, you start with a high level with the ground-based interceptors that we already have deployed.

Mr. FRANKS. Well, Mr. Chairman, I won't respond, but I hear what you are saying. It is not exactly the direction I was going, because I am grateful that we don't have that problem right in front of us. But one of my concerns here for a number of years, actually, has been the calculus that Iran makes in moving forward with nuclear capabilities, missile capabilities, on a number of different fronts.

To the degree that we can convince them that any effort on their part strategically, and certainly tactically, would be less than optimal for them, I think that is important because it may, added to some of the other pressures that they are dealing with, threats from Israel, threats from—probably not us, unfortunately, but threats from Israel—you just wonder what it will take to dissuade them. It is almost as much psychology as it is military strategy and science. But I know you guys are doing your best and I am grateful you are on the job. Thank you.

Mr. LANGEVIN. I thank the gentleman. With that, this hearing is drawing to a close. I want to thank our witnesses for your testimony today. Most especially I want to thank you all for your service to our Nation, particularly on this extraordinarily difficult and complicated issue.

Obviously, the potential threats to the Nation are great. You bear heavy weights of responsibility in making sure that we have the most robust missile defense system in place. I can see that we are making steady progress, although it is very challenging, and we thank you for the work that you are doing. This committee stands to continue to work in partnership with you, and, again, I thank you for your great work.

With that, I want to say what a privilege it has been to chair the subcommittee over the last two years. I had very big shoes to fill, and I still am trying to live up to the high standard that Secretary Tauscher has set for the subcommittee, and we thank her for her work.

Let me say what a privilege it has been to work with Bob DeGrasse and Kari Bingen as well, and the rest of the Armed Services Committee staff. They are real stars on the Armed Services

Committee staff, and have put in countless hours to make our job easier and to make sure that this committee is providing effective oversight. We are grateful to both of you for your service to the subcommittee.

Let me also say what a privilege again it has been to serve with the ranking member, Mr. Turner. He and I have had a strong partnership on this issue, these issues as well, and I appreciated his invaluable input.

Mr. FRANKS. Mr. Chairman, could I just add, sometimes you are thanking everyone else, but in an adversarial political environment, sometimes it is important to say things that are true and real. And I will tell you it has been hard to tell you were a Democrat on this committee, because you have simply done what you believed to be right for the country.

Mr. LANGEVIN. You were doing so well up to that point.

Mr. FRANKS. But I just want you to know, I don't know how we could have had a more reasonable, more affable, more dedicated chairman to try to do what was right for the country, and you certainly have my respect. I didn't vote for you, but I wish you everything good in the world, and you certainly have been wonderful to work with.

Mr. LANGEVIN. Well, I thank the gentleman for his comments, and I take the comments in the spirit with which they were intended.

With that, again, thank you to our witnesses, and keep up the great work. Members may have additional questions that they will submit to you, and you are asked to respond expeditiously in writing.

With that, the subcommittee stands adjourned.

[Whereupon, at 5:21 p.m., the subcommittee was adjourned.]

A P P E N D I X

DECEMBER 1, 2010

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

DECEMBER 1, 2010

Statement of Chairman James R. Langevin (D–Rhode Island)

House Subcommittee on Strategic Forces

Hearing on

The Status of Implementing the Phased, Adaptive Approach to Missile Defense in Europe

December 1, 2010

Good afternoon. The Strategic Forces Subcommittee will come to order. Last year, on September 17th, President Obama announced the new Phased, Adaptive Approach strategy, or the PAA, for defending Europe and the United States against the growing threat of a ballistic missile attack, particularly from Iran. In his announcement, the President said: "our new missile defense architecture in Europe will provide stronger, smarter, and swifter defenses of American forces and American allies." Last February, as part the Ballistic Missile Defense Review signed by the Secretary of Defense, the PAA strategy was expanded to address other regional missile threats.

Today, the Strategic Forces Subcommittee will review the Administration's work on implementing the Phased, Adaptive Approach over the past year. We will hear from four distinguished witnesses:

- Dr. Jim Miller, Principal Deputy Under Secretary of Defense for Policy;
- Lieutenant General Patrick J. O'Reilly, Director of the Missile Defense Agency;
- Rear Admiral Archer M. Macy, Jr., Director of the Joint Integrated Air and Missile Defense Organization for the Joint Staff; and
- Mr. Frank Rose, Deputy Assistant Secretary of State for Space and Defense Policy.

I want to thank each of our witnesses for appearing today. I also want to congratulate our witnesses, and the Administration as a whole for reaching agreement during the recent Lisbon Summit on a "strategic framework" for NATO. This framework establishes the objective of achieving, and I quote, "the capability to defend our populations and territories against ballistic missile attack as a core element of our collective defence, which contributes to the indivisible security of the Alliance." NATO-izing missile defense was a primary goal that my predecessor, Chairman Tauscher,

pressed for during her tenure in this job. Hopefully, the agreement reached at the Lisbon Summit will pave the way for rapid implementation of the PAA and open opportunities for sharing the burden of regional missile defenses with our allies and friends.

Today, about a year and two months after the announcement, the Subcommittee will have an opportunity to hear from key Administration witnesses on efforts to implement the PAA. In that regard, we asked our witnesses to address three key questions:

First, what are the key technical milestones that we should be watching for in each phase of the plan, and where do we stand in achieving those milestones? More broadly, where do we stand in defining the technical objectives and components for each phase?

Second, where do we stand in completing the operational plans and assessment of missile inventory requirements for each phase of the PAA? Specifically, when can we expect to see the results of the next Joint Capabilities Mix study?

Finally, where do we stand in defining the requirements for basing elements of each phase of the PAA on European soil, and on completing the necessary agreements with each of the host nations?

Thanks again to each of our witnesses for making time to testify before the subcommittee today and we look forward to hearing your views on the questions before the subcommittee today. Before I turn the floor over to our Ranking Member, Mr. Turner, for his opening statement, I would like to note that this will be the last hearing of the Strategic Forces Subcommittee during the 111th Congress and, thus my last hearing as Chairman [for the moment]. It has been a pleasure to chair the subcommittee over the last year and a half, and I would like to thank all of my colleagues for their contributions to our work. But especially, I would like to thank the Ranking Member for his partnership in this endeavor. While we did not always agree, I have always valued his advice and counsel, and have appreciated his support for the process. The Armed Services Committee is a unique institution in the House and I am proud to be part of the bipartisan tradition we have maintained from its beginnings. With that, let me turn to the Ranking Member, Mr. Turner, for any opening comments he may have.

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT OF

DR. JAMES N. MILLER
PRINCIPAL DEPUTY UNDER SECRETARY
OF DEFENSE FOR POLICY

BEFORE THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

DECEMBER 1, 2010

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

Mr. Chairman, Ranking Member Turner, members of the sub-committee, thank you for inviting me here today to testify on the progress we have made in implementing a phased, adaptive approach to missile defense in Europe since its announcement over a year ago. I am pleased to be joined by LTG Patrick O'Reilly, Director of the Missile Defense Agency; RADM Archer Macy, Director of the Joint Integrated Air and Missile Defense Organization; and Mr. Frank Rose, Deputy Assistant Secretary of State for Space and Defense Policy.

European Phased Adaptive Approach (EPAA) – Overview

In September 2009 the President approved the recommendation of the Secretary of Defense and the Joint Chiefs of Staff for a phased, adaptive approach to missile defense in Europe. The Defense Department recommendation for this new four-phased approach was based on an extensive analysis of alternatives conducted in the then-ongoing Ballistic Missile Defense Review.

To briefly summarize plans for the four phases of the EPAA:

In Phase 1, in the 2011 timeframe, deploy existing missile defenses to defend against short- and medium-range ballistic missiles. BMD-capable Aegis ships carrying SM-3 Block IA interceptors will deploy to the Mediterranean, and a forward-based sensor will be deployed in Southern Europe.

In Phase 2, in the 2015 timeframe, deploy improved interceptors and sensors to defend against short- and medium-range ballistic missiles. Expand the architecture with a land-based SM-3 site in Romania and the deployment of more capable SM-3 Block IB interceptors.

In Phase 3, in the 2018 timeframe, field a second land-based SM-3 site in Poland to improve coverage against medium- and intermediate-range ballistic missiles. In this phase, after development and testing are complete, deploy the more advanced SM-3 Block IIA variant currently under development on land and at sea, along with additional sensors, to provide coverage to all of our NATO European Allies.

In Phase 4, in the 2020 timeframe, deploy the next generation SM-3 interceptor, the Block IIB, to improve our capabilities to perform early intercept against medium- and intermediate-range

ballistic missiles, and potential ICBM threats from the Middle East. This interceptor, with its higher velocity, is intended provide the ability to intercept longer-range ballistic missiles during their ascent phase.

The Administration plans to deploy all four phases of the EPAA. Further advances of technology or future changes in the threat could modify the details or timing of later phases – that is one reason this approach is called "adaptive." For example, as LTG O'Reilly will discuss, the Missile Defense Agency is investigating a number of sensors including Airborne Infrared (ABIR) on unmanned aerial vehicles that could augment the system's capabilities. As a second example, the Administration plans to complete testing of the 2-stage variant of the Ground Based Interceptor, as a hedge against future uncertainties, including both the uncertainty of future threat capabilities and the technical risk inherent to our own missile defense development plans.

European Phased Adaptive Approach Advantages

The EPAA offers significant advantages over the previously planned "Third Site" architecture, including the ability to:

- defend U.S. troops and our allies in Europe much sooner against the threat posed today by short- and medium-range missiles, starting in 2011 versus 2016-2018 for the previous approach;
- cope with larger and more complex ballistic missile attacks – dozens or scores of missiles versus only five for the previous architecture;
- adapt more rapidly to changes in the threat through the ability to deploy additional interceptors as needed to land-based sites and on ships;
- provide a more unique additional layer to defense of the United States through ascent phase intercept using the Standard Missile 3 Block IIB missile, rather than a 2-stage variant of the Ground Based Interceptor (GBI) which would share many of the same potential failure modes as the 3-stage GBIs already deployed at Ft. Greely, Alaska and Vandenberg Air Force Base, California to defend the United States; and
- offer more opportunities for our allies to participate, thereby strengthening both our combined defenses against the ballistic missiles and the solidarity of the NATO Alliance.

As the United States deploys SM-3 interceptors in Romania by 2015 and in Poland by 2018, a number of missiles will be deployed in their launchers on a day-to-day basis. Plans call for deploying 24 interceptors per site -- a total of nearly five times more than the previous plan – plus additional re-loads, plus additional ship-based interceptors.

EPAA Implementation Progress

Since the President's announcement of the EPAA in September 2009, the Administration has made substantial progress in implementation, including most recently at the NATO Summit in Lisbon, where Allies agreed to pursue a territorial missile defense capability to protect NATO European populations and territories. EPAA will now become the U.S. contribution to the Alliance's territorial missile defense capability.

I will provide a very brief overview of progress on EPAA over the last year. My colleagues will then provide more details. LTG O'Reilly will summarize progress in developing, acquiring, and testing key system components. RADM Macy will discuss progress in making the system operational. And Mr. Rose will provide more details regarding discussions with NATO Allies.

Phase 1 (2011 timeframe)

In Phase 1, Aegis BMD ships will be allocated to support the European BMD mission. In early 2011, a BMD-capable Aegis ship carrying SM-3 Block IA interceptors will be deployed to the Eastern Mediterranean. By the end of Phase 1, we anticipate three or more Aegis BMD capable ships will be available for the defense of Europe in a crisis.

We plan to deploy a forward-based AN/TPY-2 radar in Southern Europe in 2011 to provide early data about missiles launched from the Middle East. We are in discussions with potential host-nations about the location of this radar, and while no decision has been made, we expect to meet the planned deployment timeline in 2011. The specific radar to be deployed has been identified and will be ready.

Since LTG O'Reilly will address the programmatic elements of the EPAA in detail, I will just note that DoD has procured 112 SM-3 Block IA interceptors as of the end of FY 2010, for

delivery by FY 2012. Some 180 SM-3 IBs will be delivered by FY 2015. In addition, the Navy currently has 20 BMD-capable ships and plans to have a total of 37 BMD-capable ships by FY 2015.

Phase 2 (2015 timeframe)

In February of this year, Romania agreed to host the land-based SM-3 site in Southern Europe. We plan to deploy 24 SM-3 interceptors in Romania, with additional interceptors stored for re-load. The SM-3 Block IB will be utilized at the Romanian site and will also be phased in at sea for use by our Aegis BMD ships.

On June 17, Under Secretary of State Tauscher met with her Romanian counterpart in Bucharest to begin the negotiations on a missile defense basing agreement. We just completed our third round of negotiations on the text of that agreement in September, and we have seen consistent progress with each round of negotiations.

The Department of Defense plans to procure approximately 324 SM-3 Block IBs by FY 2015, for delivery by FY 2017.

Phase 3 (2018 timeframe)

In October 2009, Poland agreed to host a land-based SM-3 interceptor site on its territory, as part of Phase Three of EPAA (in the 2018 timeframe). This site will be located at the same former military installation in northwestern Poland that would have housed the GBIs under the previous "Third Site" plan.

On July 3, 2010, Poland and the United States signed the Protocol Amending the Ballistic Missile Defense Agreement. In addition, we have signed and ratified a Supplemental Status of Forces Agreement with Poland.

The SM-3 Block IIA, a cooperative development program with the Japanese, will have its first intercept test in 2014 and will enter service by 2018.

Phase 4 (2020 timeframe)

The key additional capability in Phase 4 in the 2020 timeframe will be the deployment of the next generation SM-3 interceptor, the Block IIB, which will provide the ability to perform early intercept against medium- and intermediate-range ballistic missiles, and potential ICBM threats from the Middle East. The MDA is conducting SM-3 Block IIB concept and component technology development during this fiscal year. The Request for Proposals (RFP) for the concept development for the SM-3 Block IIB was issued in October 2010, and MDA expects to begin flight-testing the SM-3 Block IIB, which will use the same fire control system as the SM3 IIA, in 2016.

NATO Territorial Missile Defense

In announcing EPAA, the President said we would work with our Allies to develop a NATO territorial missile defense capability, with the EPAA as a U.S. contribution to that capability. As part of that we signaled our interest in expanding the emerging NATO missile defense command and control system to provide the Alliance with such a capability. We have made considerable progress on this front as well.

Support for the EPAA within NATO began at the time of our September 2009 announcement, and we have worked with our Allies to steadily build that support ever since. We have sought to place the EPAA in a strong NATO context. At the December 2009 NATO Foreign Ministerial, the governments of all NATO members unanimously welcomed the EPAA by a statement that read: "We welcome the new phased adaptive approach of the United States to missile defence, which further reinforces NATO's central role in missile defence in Europe." We continued working with our Allies over the past year on our approach, culminating this November at the NATO Summit in Lisbon.

At the Lisbon Summit, NATO leaders took the unprecedented step to decide to develop a missile defense capability to protect the Alliance's populations and territories in Europe against ballistic missile attacks, noting that this capability contributes to the indivisible security of the Alliance. Missile defenses are most effective when deployed in layers to provide multiple opportunities to intercept threat missiles. The EPAA will be the U.S. contribution to the Alliance's territorial

missile defense. This structure will allow our Allies to plug in their national missile defense capabilities to achieve even greater capabilities over time.

Further, at the Lisbon Summit, NATO also decided to expand its existing missile defense command and control backbone — the Active Layered Theater Ballistic Missile Defense or ALTBMD — to encompass territorial missile defense. This expanded capability will make current and future Alliance missile defense assets interoperable, and will allow for NATO command and control of the lower tier assets during an actual engagement. The net result will be more efficient and effective NATO missile defenses.

Our commitment to ensure protection of NATO Allies does not mean NATO will have a "veto" over the protection of the United States and our deployed forces. Interoperability with NATO command and control systems will not diminish our ability to defend U.S. deployed forces, our partners, and, of course, the U.S. homeland.

Missile Defense Cooperation with Russia

As part of the announcement of EPAA last year, the Administration welcomed Russian cooperation to bring its missile defense capabilities into a broader defense of our common strategic interests. Over the past 14 months we have moved forward transparently in this area as well.

In conducting these discussions, the Administration has made clear to Russia and Allies that the United States will not agree to any limitations or constraints on U.S. ballistic missile defenses, and that the United States intends to continue improving and deploying BMD systems to defend the U.S. against limited missile launches, and to defend our deployed forces, allies, and partners against regional threats.

Seeking missile defense cooperation with Russia is not new. President Ronald Reagan proposed such cooperation with the Soviet Union in the 1980s. Much more recently, President G.W. Bush pursued cooperation on missile defense with Russia throughout his administration. NATO has also sought missile defense cooperation with Russia for many years, and a number of missile defense exercises were conducted with Russia both bilaterally and within the NATO-Russia Council from the mid-1990s through the middle of the last decade. Furthermore, a U.S.- Russia

Defense Technology Cooperation Agreement, which would allow further missile defense and other types of technology cooperation, has been in negotiations since 2004.

In September 2010, Secretary Gates and Defense Minister Serduykov agreed to create the new Defense Relations Working Group. This body is intended to be a venue for discussing defense policy topics such as missile defense. I will co-chair two sub-working groups: Missile Defense Cooperation and Defense Technology Cooperation. The first meeting of these sub-working groups is planned for early next year.

There are also opportunities for cooperation with Russia through NATO. The Lisbon declaration on territorial missile defense clearly states that the Alliance will seek cooperation with Russia and in fact invites Russia to become involved. At the NATO-Russia Council on November 20, Allies and Russia agreed to study territorial missile defense cooperation. The agreed declaration also states that NATO and Russia will resume cooperation on theater missile defense, in particular on defense of deployed forces against shorter-range ballistic missile threats.

Way Ahead

The Administration, working with our Allies, has made considerable progress to implement EPAA over the last 14 months. We have a robust plan in place and mechanisms to oversee implementation. The EPAA has the unanimous support of our Allies in NATO, and we have agreements for land-based sites in Romania and Poland.

With NATO's recent decision to pursue a territorial missile defense capability, the Administration has begun the technical work to make EPAA the U.S. contribution to NATO missile defense. For example, at Lisbon, NATO tasked its experts to develop the specifics of how command and control of NATO territorial missile defense capabilities will be handled.

With Russia, we are pursuing missile defense cooperation in defense of our broader common strategic interests both bilaterally and through the NATO-Russia Council. We have made it absolutely clear that the United States will not accept any constraints or limitations on current or future missile defenses.

Finally, it is important to note that as we continue to implement EPAA, we also continue to maintain and improve our defenses of the homeland. The U.S. homeland is currently protected against the threat of limited ICBM attack, as a result of investments in the system based on Ground-based Midcourse Defense (GMD). The United States has deployed a total of 30 Ground-Based Interceptors (GBIs), at Fort Greely, Alaska and Vandenberg Air Force Base, California, along with a global architecture of sensors and command and control systems. The United States now possesses a capacity to counter the projected threats from North Korea and Iran for the foreseeable future.

At the same time, because the threat is unpredictable, the United States is well hedged against the possibility that threats develop more rapidly than expected. This includes the benefits derived from the EPAA. We have planned for a number of possible hedge capabilities, including: improvements in sensors to support an Early Intercept of missiles before they can deploy countermeasures; completing Missile Field 2 at Fort Greely, Alaska to allow for the rapid emplacement of up to eight additional GBIs; continuing development of the two-stage GBI; and development of new airborne and space-based sensors to track and target adversary missiles.

Conclusion

As we continue to implement the EPAA, it is important to remember that one of the hallmarks of this approach – its adaptability – uniquely postures the United States to adjust to the unpredictable. Defenses, particularly ship-based systems, can be shifted, reallocated globally to address near term threats that may emerge. No longer are we building systems anchored in one place and wedded to the current assessment of the threat. We can adapt.

The threat posed by ballistic missiles is real, and it is growing. After years of development, our missile defenses today are also very real, and our capabilities are growing. We look forward to working with Congress in ensuring continued progress in implementing the EPAA.

Thank you and I look forward to your questions.

Unclassified Statement of

Lieutenant General Patrick J. O'Reilly

Director, Missile Defense Agency

Before the

House Armed Services Committee

Subcommittee on Strategic Forces

Regarding the

European Phased Adaptive Approach (EPAA)

Wednesday, December 1, 2010

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United States House of Representatives

Lieutenant General Patrick J. O'Reilly, USA
Director, Missile Defense Agency
Before the
House Armed Services Committee
Strategic Forces Subcommittee
December 1, 2010

Good afternoon, Chairman Langevin, Ranking Member Turner, other distinguished Members of the subcommittee. It is an honor to testify before you today on the status of the European Phased Adaptive Approach (EPAA) for missile defense of our homeland, deployed forces, and NATO European allies. The Missile Defense Agency (or MDA) is committed to disciplined management to rapidly and efficiently create effective missile defense capability in four phases paced by progress in technology achievement, product development, and testing. The resulting highly integrated missile defense system will provide robust missile defense using advanced ground, airborne, seaborne, and space-based sensors and a combination of interceptors leveraging multiple intercept opportunities against Short-, Medium-, and Intermediate-Range Ballistic Missiles (SRBMs, MRBMs, and IRBMs) and Intercontinental Ballistic Missiles (ICBMs) from current and projected regional threats. As stated in the Ballistic Missile Defense Review (or BMDR), our highest priority remains strengthening our homeland missile defense in all phases of the EPAA by restarting our Ground Based Interceptor (GBI) production lines, upgrading our interceptor launch systems, expanding the network of sensors, enhancing the command and control of the Ground-based Midcourse Defense (GMD) system, and developing a new interceptor that will add an early intercept capability to our homeland defense arsenal against regional threats: the SM-3 IIB. Over the past year we have made significant progress and, combined with the results of the Joint Staff missile defense

capability (inventory) analysis and Combatant Commander's operational plans, our plans meet the policy objectives as described in the BMDR. I report to you that we are executing all of our program management baselines in accordance with the timelines announced by the President in September 2009 for the EPAA.

A robust missile defense architecture requires layers of sensor and interceptor systems integrated by a command, control, and communications network in order to have multiple threat missile tracking and intercept opportunities. The United States proposes its contribution to the missile defense of NATO Europe be U.S. "upper tier" missile defense systems (Aegis BMD and the AN/TPY-2 forward-based radar), which will typically provide the first opportunity to intercept MRBMs and IRBMs. Lower tier missile defense systems, provided by the United States and our NATO Allies and integrated with our territorial missile defense systems through the expansion of NATO's Active Layered Theater Ballistic Missile Defense, or ALTBMD, command and control system, would provide the second, or third, shot opportunity for the effective protection of European NATO countries.

Most of the capability required for the EPAA has been studied or developed by MDA for several years. These capabilities include the land-based SM-3, which is being developed under the name Aegis Ashore, the Standard Missile (SM) - 3 IB and IIA, the Airborne Infra-Red (ABIR) sensor, and Precision Tracking Space System (PTSS) programs. The only new program start resulting from the EPAA, the SM-3 IIB interceptor, was driven by the need for an early intercept capability against MRBMs and IRBMs and a hedge to augment homeland defense against future potential ICBMs launched by today's regional adversaries.

EPAA Phase 1 Progress

Starting in 2011, Phase 1 capability will provide initial protection of southern Europe from existing SRBM and MRBM threats using sea-based interceptors and SPY-1 radars, missile defense command and control suites, and a forward land-based AN/TPY-2 radar. Phase 1 sensors also will provide early tracking for GMD for improved homeland defense if an intercontinental missile threat emerges from the Middle East.

Phase 1 Aegis Ballistic Missile Defense (BMD) FY 2010 Progress. Multiple BMD-capable Aegis ships, equipped with the Aegis BMD 3.6.1 computer program, are already deployed with EPAA Phase 1 Aegis capabilities. During the past year, MDA completed installation of BMD capability on two Aegis cruisers, bringing the total number of U.S. BMD-capable Aegis ships to 20. We delivered all 26 FY 2010 SM-3 IAs six months ahead of schedule and are running four months ahead of schedule for FY 2011 deliveries. Additionally, in October, the Japanese conducted the 10th intercept using the SM-3 IA interceptor.

Phase 1 Sensors FY 2010 Progress. We have demonstrated increasing integration and capability of the AN/TPY-2 radar in 8 flight tests and 6 ground tests during FY 2010, including tests with the Patriot, THAAD, Aegis, and GMD systems. AN/TPY-2 radar (#4) environmental testing was completed nine months earlier than originally planned and that radar began refurbishment in August to be made available for deployment in Southern Europe next year as directed by the Joint Staff and the Office of the Secretary of Defense.

Phase 1 C2BMC FY 2010 Progress. Over the past year, we also completed development and entered qualification testing of Command, Control, Battle

Management and Communication (C2BMC) Spiral 6.4. This will enable control of multiple AN/TPY-2 radars and increase robustness for information assurance and computer network defense. In November 2009 and July 2010, we installed C2BMC hardware and software upgrades in command and control nodes at U.S. European Command (USEUCOM) to support Aegis operations. In July, we demonstrated NATO Active Layered Theater Ballistic Missile Defense interoperability with the U.S. C2BMC in Joint Project Optic Windmill. Deployment of C2BMC 6.2 began at U.S. Central Command in August. In early 2011, the BMDS C2BMC Spiral 6.4 will be installed in USEUCOM headquarters, also in support of Phase 1 operations.

FY 2010 Progress in Improving Homeland Defenses in Phase 1. During the past year, we restarted the dormant GBI production line and upgraded two of the original GBIs, and we will continue to replace the original interceptors with upgraded, or new, GBIs until the entire fleet of GBIs is incrementally replaced by 2015. In March, we installed a Ground-based Missile Defense fire control training node at Fort Greely to allow simultaneous operations and training of our Soldiers at the site. In May, we completed modifications to the Thule, Greenland Upgraded Early Warning Radar, which provides tracking capability of potential future ICBMs from the Middle East. In June, we conducted the 2-stage GBI flight test (BVT-01) as a potential hedge to allow for a longer intercept window of time if ICBMs were launched from Northeast Asia or the Middle East. In September, we emplaced the thirtieth GBI. Additionally, we emplaced all GBI silos and silo interface vaults in Missile Field 2 at Fort Greely, Alaska and will be ready to receive the first GBI in February 2012 and expand the total number of available GMD silos to 38 (30 operational silos with 8 available for additional GBIs, if warranted).

Phase 1 Support to USEUCOM FY 2010 Progress. MDA intensely interacts with the regional Combatant Commanders to conduct war games, exercises, and provide technical input for the development of contingency war plans. This past July, we conducted Joint Project Optic Windmill 2010 with our European allies and U.S. European Command (USEUCOM). USEUCOM used this exercise to explore joint concepts for the command and control of EPAA systems. We also participated in numerous war games and planning events during the year with U.S. Central Command, U.S. Strategic Command, and U.S. Northern Command.

EPAA Phase 2 Progress

During 2015, Phase 2 capability will be deployed to provide improved protection of southern Europe from ballistic missile threats with the deployment of the SM-3 IB (with Aegis BMD 4.0.1 software) and proven SM-3 IA interceptors at sea and at an Aegis Ashore site in Romania. Enhanced coordination and use of remote sensors by Aegis ships to launch interceptors earlier in an engagement will improve overall EPAA performance. During this timeframe we will focus technology development on prototype airborne sensor systems (carried on Remotely Piloted Vehicles or RPVs), enhanced command and control, and satellite sensor systems. EPAA Phases 2 and 3 will be supported by future C2BMC spirals to improve sensor management of multiple radars, deliver threat track information to Aegis BMD and Aegis Ashore, and improve connections to NATO command and control structures.

Phase 2 Aegis Ballistic Missile Defense (BMD) FY 2010 Progress. In October 2009, we simulated the intercept of two SRBM targets and 1 separating SRBM target using Aegis 4.0.1 software on the USS Lake Erie. Over the past year, we also conducted

ground tests of the SM-3 IB interceptor kill vehicle. This past August we awarded Lockheed Martin Maritime Systems and Sensors a contract (through April 2011) to provide the systems engineering and adaptation of the Aegis Weapon System equipment and computer programs for the Aegis Ashore configuration. From July through September, a joint U.S.-Romanian team assessed and evaluated candidate sites for Aegis Ashore in support of the State Department-led Ballistic Missile Defense Agreement negotiations. In October 2010, we completed the Aegis Ashore System Requirements Review. Also in October, we commenced at-sea operational testing of the Aegis BMD 4.0.1 system on the USS Lake Erie, which is scheduled for certification in FY 2011. The Aegis BMD 4.0.1/SM-3 IB combination brings improved capability against complex targets and increased raid capacity to the Navy's BMD-capable Aegis ships. Aegis BMD 5.0 (to be used in Aegis Ashore) with the SM-3 IA and IB interceptors, extends the Aegis BMD 4.0.1 capability into an open architecture computing environment integrated with the Navy's Aegis modernization program.

Phase 2 C2BMC FY 2010 Progress. We started engineering and design work on the next generation C2BMC, which will provide initial battle management aids for enhanced coordination of interceptor systems, multiple radars and infra-red sensors, and the integrated BMDS Overhead Persistent Infrared (OPIR) satellite architecture for improved cueing and early warning on boosting threats from satellites. In support of this, we also purchased Phase 2 communications equipment in 2010 for the Air Operations Center in Ramstein, Germany.

EPAA Phase 3 Progress

In 2018, we will deploy the SM-3 IIA interceptor on land in Poland as well as Romania and at sea and Aegis BMD 5.1 software to protect NATO European countries from SRBM, MRBM, and IRBM threats. System improvements include expanded interceptor system coordination and improvements to radar discrimination. We will deploy the Precision Tracking Space System (PTSS) and Airborne Infrared (ABIR) to simultaneously track large numbers of hostile ballistic missiles and enable earlier intercepts.

Phase 3 ABIRS Capability Development FY 2010 Progress. In 2010, MDA conducted key experiments with sensors on RPVs to assess alternatives for simultaneous tracking and discriminating large numbers of threat missiles in flight. From December through June, we executed five flight tests demonstrating sensor accuracy and passing real-time target tracks to ground stations. In October, we purchased four Multi-spectral Targeting System (MTS) infra-red sensors for higher fidelity testing of early missile tracking concepts. In June, we completed an analysis of alternatives with the Air Force that recommended continuing to use the Reaper RPV platform and the MTS class sensors for completing our ABIR concept development.

Phase 3 PTSS Capability Development FY 2010 Progress. Based on studies by MDA and Federally Funded Research and Development Centers and University Affiliated Research Centers, MDA presented a government concept for the acquisition of the PTSS to industry to facilitate competition for near-term production planning contracts. In July, we demonstrated the ability of the Space Surveillance and Tracking System satellites to acquire and track boosting missiles. In August, we demonstrated in

a laboratory environment the ability to pass satellite sensor generated missile tracks into the C2BMC that can be used by Aegis for launch on remote. We established Air Force and Navy Service Cells in August to ensure the PTSS will be successfully controlled by the Air Force and used by the Army and Navy to enhance Aegis, THAAD, and GMD capability. The Agency also completed preliminary analyses and trade studies leading to a successful PTSS System Concept Review in August.

Phase 3 Enhanced C2BMC Capability Development FY 2010 Progress. This past year we initiated development of an Integrated Sensor Manager that combines Airborne and Space sensors (including ABIR and PTSS) for experiments to validate impacts of these systems on our ability to track large raids of missiles In July, we awarded contracts to develop next generation Command and Control architectures and defined functional allocation to integrate PTSS into the BMDS. In August, we also awarded a contract to Purdue University for revolutionary research in reconfigurable networks.

EPAA Phase 4 Progress

In 2020, the Phase 4 architecture features the higher velocity SM-3 IIB interceptor and enhanced command and control system to provide early intercept capability against large raids of MRBM and IRBM missiles and potential ICBMs emerging from today's regional ballistic missile threats. The SM-3 IIB will be the first layer of our homeland defense system with GMD providing the second layer to enhance overall probability of intercepting ICBMs from different missile defense systems.

Phase 4 SM-3 IIB Capability Development FY 2010 Progress. In 2010, we completed an initial government assessment of technology readiness and the desired SM-3 IIB performance characteristics. We assessed alternative missile architectures

and technologies to define trade space across cost, risk, and missile performance to establish feasible and affordable missile requirements. In August, we completed a System Concept Review, which defined the engineering trade space for concept development and identified priorities for technology risk reduction to be completed prior to product development. In September, in partnership with the Navy, we completed the first phase of a feasibility assessment on concepts to modify the launcher modules of the Aegis MK 41 Vertical Launcher System to accommodate the SM-3 IIB missile.

THAAD FY 2010 Progress

While it is not a part of the EPAA, Terminal High Altitude Area Defense (THAAD) will be available for deployment globally. In February, THAAD completed its ground component testing involving natural environments. The first THAAD battery completed the Force Development Experiment last February and, in June, we completed the Limited User Test to validate initial operational capability. Also in June, we intercepted a target representing the shortest range threat that could be engaged by THAAD while injecting nine simulated SRBMs into the THAAD radar processor. In July and August, THAAD completed mobility and safety and electromagnetic environment effects testing in support of the Army's THAAD Materiel Release decision in early 2011. This decision will determine whether THAAD is safe for soldiers to operate, suitable for use, supportable, and represents the formal acceptance of the first THAAD battery by the Army. In August, we also completed delivery of the hardware for the second THAAD battery, integrated it with the AN-TPY-2 radar, and began training. In September, we awarded the THAAD initial production contract for 26 interceptors and batteries 3 and 4 ground systems.

FY 2010 Testing Progress

In FY 2010 the Agency, in full collaboration with Combatant Commands, Service Operational Test Agencies, the Director, Operational Test & Evaluation, and the Director, Developmental Test & Evaluation, developed and approved the Integrated Master Test Plan (IMTP) versions 10.1 and 10.2, which aligned the missile defense test program to the EPAA phases for proven capability delivery. MDA is working closely with USEUCOM and Joint Forces Component Command Integrated Missile Defense to develop test plans and test designs for flight and ground testing to collect data necessary to assess Phase I capability by the end of 2011 in support of Joint Staff and OSD for Phase I. War fighters operate our missile defense systems during all of our flight tests under simulated wartime conditions using approved concepts of operation and tactics, techniques and procedures. IMTP 10.2 includes all testing requirements for EPAA Phases 1 through 3, which include 72 flight tests and 107 ground tests from FY 2010 through FY 2021.

There are several major test activities in support of EPAA Phase 1 assessment during FY 2011. This spring we will conduct FTM-15 to intercept an IRBM target using the EPAA Phase 1 architecture, including a SM-3 IA interceptor, forward-based AN/TPY-2 radar, and EPAA Phase 1 C2BMC and Aegis software configurations. We are conducting two critical ground tests to demonstrate the EPAA Phase 1 capability to defend European allies and deployed forces from multiple and simultaneous SRBM and MRBM threats: Ground Test Integrated-04d (3Q FY 2011) is a hardware-in-the-loop system level test, and Ground Test Distributed-04d (4Q FY 2011) uses operational communications and equipment. Additionally, in support of Phase 2 assessment, MDA

also will conduct FTM-16 (2 events) in FY 2011 to demonstrate Aegis BMD 4.0.1 and the SM-3 IB missile.

FY 2010 EPAA Acquisition Strategies and Contract Actions

MDA has several acquisition strategies and on-going contract actions supporting the Phased Adaptive Approach, including Aegis Ashore, Targets, the SM-3 IIB, Precision Tracking Space System, Airborne Infra-Red, and Directed Energy Research.

Aegis Ashore Acquisition Strategy. We are leveraging existing and future contracts through MDA, the Navy, and the Army to procure Aegis Ashore elements. A systems engineering and adaptation of the Aegis Weapon System equipment and software has been initiated.

Targets Acquisition Strategy. In order to test the EPAA, we must provide low cost, highly reliable targets for successful BMDS and element data collection and intercept tests by using common components to achieve efficiency and reliability. The Agency developed the IMTP to support validation of all BMDS models and simulations and, specifically, the EPAA. We are procuring IRBM and ICBM targets to support requirements through the Future Years Defense Plan, to include baseline manufacturing configurations, complex target configurations, and unique target configurations procured in low unit quantities. Each target class will be solicited, evaluated, and awarded independently to meet the requirements in the IMTP. We are on track to award a contract for IRBM target procurement in the second quarter of FY 2011 to support EPAA phases 1 through 3 and operational testing. We anticipate a fourth quarter FY 2011 contract award for ICBM target procurement in support of phases 2 and 3 and operational testing.

SM-3 IIB Acquisition Strategy. In early FY 2011, MDA plans to award three competitive concept definition and program planning contracts to define and assess viable and affordable missile configurations, conduct trade studies, and define an executable development plan. One of these three companies will be selected in 2013 to complete the design and begin flight testing the SM-3 IIB in 2016. In parallel with our concept definition efforts, we are developing technologies with component vendors to mature key critical technologies to increase missile performance prior to the Product Development Phase, which begins in early 2013.

Precision Tracking Space System Acquisition Strategy. We are using existing MDA and external contract vehicles from the Air Force, Navy, and the Department of Energy to execute PTSS trade study and system engineering efforts. To support MDA's goal of developing the PTSS system to address the ascent phase midcourse-tracking mission in a cost-effective manner, PTSS will be developed in two distinct capability phases, each with its own acquisition strategy. The first capability will be the System Prototype Baseline Design. Five contractor teams will be selected to participate in prototype development. The second capability phase will be the production of the PTSS System. We plan to conduct a Preliminary Design Review in the fourth quarter of FY 2011. MDA will acquire the Production PTSS constellation through a down-select to one of the participating contractors in FY 2014.

Airborne Infrared Acquisition Strategy. We will demonstrate an airborne solution to prove forward-based fire control and raid size handling using Multispectral Targeting System family infrared sensors and the MQ-9 Reaper RPV. Upon successful demonstration, we will work with our Service partners on long-term acquisition and

deployment strategies. In the near-term, we will use the Air Force and Navy contracts to do initial risk reduction, develop and buy sensors, and execute flight testing. Beginning in first quarter of FY 2011, we will modify ABIR platforms and sensors for experimentation.

Summary

The Department is on track to meet key milestones in the development of homeland missile defense and the President's Phased Adaptive Approach to deploy missile defenses in Europe against a growing and increasingly sophisticated ballistic missile threat. Planned EPAA capability deliveries and development efforts reflect the war fighting priorities of the U.S. European Command. We have established clear baselines for the product development of all ballistic missile defense capabilities, which I believe will enhance rigor and discipline in our acquisitions and provide better control of BMDS cost, schedule, and technical performance. We also are developing potential technological solutions to EPAA capability shortfalls with analysis and technology development activities for the deployment of precision tracking sensors in space and a new higher velocity interceptor on land and at sea. Finally, to help ensure capabilities we deliver have been adequately proven, the Integrated Master Test Plan documents BMDS testing requirements for the EPAA phases in full partnership with independent testers and the war fighter.

Thank you and I look forward to answering your questions.

STATEMENT OF
REAR ADMIRAL ARCHER M. MACY, USN
DIRECTOR
JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION
BEFORE THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
1 December 2010

Thank you, and good afternoon Chairman Langevin, Ranking Member Turner, other distinguished Members of the subcommittee. It is an honor and a pleasure to join Dr. Miller, LTG O'Reilly, and Mr. Rose to discuss the Phased Adaptive Approach for ballistic missile defense.

The concept of a Phased Adaptive Approach to missile defense, or PAA, was the outgrowth of the Ballistic Missile Defense Review, which took a holistic view at the different aspects of our missile defense strategy and its programs, ranging from trends in threat development; US missile defense technology development; operational fielding needs and opportunities; and capability requirements from Combatant Command war plans. The PAA represents a significant change in the U.S. approach to missile defense and is responsive to both Congressional direction and the warfighters' needs to place more emphasis on near-term, shorter range missile threats. The particular focus of PAA is the regional missile threat coming from short-, medium-, and intermediate-range ballistic missiles. But how we implement it has implications for our commitment to maintain over the longer term the currently advantageous Homeland Defense posture vis-à-vis limited ICBM attack. In short, it is a more effective and efficient approach to missile defense. I think it is important to emphasize here that the PAA is not an acquisition program, or a single plan to be applied unchanged across all areas of the globe. It is a conceptual approach to providing ballistic missile defense capability for both the Homeland and our forces, allies and partners in different regions, circumstances and times.

As you know, the recently completed NATO Summit of Heads of State and Governments at Lisbon adopted the new Strategic Concept for NATO, which explicitly affirms that, in the face of "...the proliferation of ballistic missiles, which pose a real and growing threat to the Euro-Atlantic area," the Alliance will "develop the capability to defend our populations and territories against ballistic missile attack as a core element of our collective defence, which contributes to the indivisible security of the Alliance." We view this as a ringing affirmation of the validity and the opportunity provided by the PAA to missile defense for our European NATO Allies.

I would like to point out that although there has been significant focus and discussion on Europe, the PAA is much more than just the defense of Europe. The PAA concept provides the United States with an enhanced capability to respond to regional threats worldwide, no matter where they emerge, and to strengthen defense of the Homeland. It also provides us with the flexibility to tailor the type and size of that response by being able to adapt to the threats, partners capabilities, and geography of each region. The PAA is "phased" to advances in our own technical and operational capabilities for ballistic missile defense, and it is "adaptive" to trends and advances in potential adversarial threats. We speak of four phases in advances of our technical capabilities; however, the same number and timing of individual phases may well not be applied in each Combatant Commander's AOR the same way. We are developing plans for phases for each AOR, with the European PAA currently being the most advanced.

A key enabler for this flexibility is the structured and disciplined approach to development and fielding of the Ballistic Missile Defense System or BMDS. As General O'Reilly discussed, the PAA has not resulted in a wholesale change in what the Department had previously planned to develop, but it does adjust the timing and quantity of some of the systems. The Missile Defense Agency is providing the Department with an impressive array of very capable systems that give us the freedom to maneuver and adapt to different and changing environments and threats. To fully capitalize on this range of

capabilities, the Joint Staff has undertaken a series of analyses to help guide decisions on maximizing Combatant Commander capabilities. These analyses, known generically as Joint Capability Mix studies, provide senior leaders with a risk-relevant assessment based on operational plans. This is a critical effort, particularly in light of the need to maximize every dollar spent. I'll discuss these studies in more detail, but want to now return to the PAA and its operational benefits.

Operational Benefits Of PAA

There has been some confusion over the PAA and what it does. Much of this confusion stems from the near term emphasis on the application of PAA to Europe, and the resultant assumption that European PAA represents the sum total of the approach. General O'Reilly has provided a very thorough review of systems and capabilities over time so I won't repeat that, but I would like to take a few moments to discuss the operational benefits of the broader application of the PAA. It's important to recognize that the PAA did not cancel the fielding of BMD capabilities. Rather, it is a realignment and enhancement of our BMDS plans, not a replacement. The realignment provides us with greater capability through a flexible and adaptable approach which focuses on protecting those most at risk today, while continuing to improve our capability against future threats. As has been noted by Congress in both the 2008 and 2009 National Defense Authorization Acts, the most pressing threat for our deployed forces today is the increasing number of Short Range Ballistic Missiles (SRBMs) and Medium Range Ballistic Missiles (MRBMs). Congress directed that we focus greater emphasis on the threats from short-and medium-range missiles. Without going into classified details, suffice it to say that the sheer number and types of these threats grows daily and the nation needs to find a way to deal with them. The PAA addresses these issues head on. The US cannot afford to build the number of launchers, interceptors, and sensors it would take for each Combatant Commander to have his own dedicated BMDS capability that can address all the potential strikes that could

be launched. What the PAA provides, instead, is a balanced investment that has the capacity to engage the range of threats; can be tailored to the geography, political circumstances, capabilities of regional partners; and has the flexibility to rapidly deploy more assets where and when they are needed.

PAA Phase 1

PAA Phase 1 is focused on the near term essentials to go squarely against the SRBM and MRBM threats. We are already giving the overseas Combatant Commanders more of what we already have by increasing the number of Patriot interceptors to complement the existing inventory of Patriot and Aegis with Standard Missile 3 (SM-3). The European PAA Phase 1 will also add SM-3 Block IA. This is a simple and direct operational counter. As the number of threats grow, we increase the number of our defensive interceptors. This is workable to a point, but as I mentioned earlier, it rapidly becomes unaffordable as the threats continue to grow in numbers over time.

To break out of the spiral of trying to match the threat missile-for-missile, the European PAA Phase 1 also begins the introduction of operational leverage by placing a forward-based AN/TPY-2 radar in Southern Europe. The addition of this AN/TPY-2 radar will allow the Combatant Commander to use Aegis to launch interceptors against ballistic missiles tracked by either the ship itself or the AN/TPY-2 radar. This significantly increases the size of the area that can be defended. Coincident with this is the C2BMC upgrade to the air operations center at Ramstein Air Base, Germany. C2BMC both controls the AN/TPY-2, and it also ties it and any Aegis ships into our command and control structure in Europe.

When plans with the Alliance are completed, the C2BMC will also serve as the link between the US elements of the PAA in Europe, and the NATO command and control structure in the NATO Active Layered Theater Ballistic Missile Defense (ALTBMD), which, as General O'Reilly noted, has begun to be demonstrated.

This phase also continues to enhance our capability for Homeland defense with early warning radar upgrades, adding more ground based interceptors (GBIs) in Alaska, and developing improved GBIs. C2BMC is a major operational leverage point for PAA because it provides the pathway for data exchange throughout a theater and from a theater to the Homeland. In the instance of the European PAA the radar tracks from the AN/TPY-2 in Southern Europe will be provided to NATO for defense of the European members of the Alliance, and will be used by the US to provide early tracking information to enhance our Homeland defense assets. This linkage enables very efficient management of radar data and missile engagements. The number and mix of US and allied systems coming on line makes it critical that we have the capability to manage them as an integrated force. C2BMC will ensure threats are detected, tracked, and engaged, and at the same time prevent inadvertent "over engagement" where too many shots are taken at an incoming threat, or worse no shots are taken, because each shooter is operating independently and makes assumptions about what others are doing. The operational bottom line on Phase 1 is that it gets us greater ability to engage the SRBM and MRBM threats, and just as important, it begins fielding a netted sensor and weapons infrastructure.

PAA Phase 2

Phase 2 of the PAA truly embodies operational innovation. From a developmental point of view, the introduction of Aegis with SM-3 IB and AN/TPY-2 radars and missiles gives us expanded capability against MRBMs. We also significantly increase the size of area that can be defended. The true operational innovation in this phase comes from the increasing use of integrated and networked systems and the concept of land-based SM-3.

Operational leverage gained from the improvements in the SM-3 Block IB interceptor is anticipated to be dramatic. The SM-3 IB seeker's discrimination capability improves its performance during intercepts but its other value added is it enables Aegis to capitalize on networks. The SM-3 IB will be deployed on

Aegis on land and Aegis at sea. Because the missile seeker has been improved, both Aegis at sea and on land will be able to launch on remote sensor data (for example, using data from one of the land based radars). The operational impact of this concept is not obvious until you understand that the SM-3 missile has a fly-out range that goes well beyond where the Aegis radar can see. The establishment of networks combined with the ability to use remote sensor data enables a Combatant Commander to take full advantage of the SM-3 range and reach out to extremely long ranges to engage targets. Operationally, this equates to a much larger defended area and a greater number of defended assets with the same force structure. This is the true definition of operational leverage.

The other key development in this phase is land-based SM-3. Land-based SM-3 is a shift away from forward based GBIs in fixed launch sites, to a relocatable land-based Aegis radar with land-based SM-3 IB. Land-based SM-3 provides all the engagement range and capability of an Aegis ship but without the requirement to keep a ship in a fixed location for extended periods of time, nor the cost of maintaining the rest of the multi-mission capability of an Aegis warship. Operationally this allows a Combatant Commander to provide long-term coverage for his assets or allies, establish a presence, and have a visible deterrent in theater. Similarly, a land-based SM-3 system can be augmented with Aegis warships and other BMDS assets to provide a very robust defense if the situation warrants. This is a very operationally responsive concept for the Combatant Commanders.

In Phase 2 Combatant Commanders will also be able to leverage sensors and weapons across the network to launch missiles earlier; take multiple shots if necessary; and provide data to our allies. Operationally, this enables commanders to provide defense across more areas, with fewer systems, or to mass fire power to a specific area through remote engagements. This is the phase of PAA where we loosen the classic geographic bonds on our weapon systems and begin to use them to their full capability. It is also the phase where we leverage networking to increase survivability. The ability to use

multiple weapons systems, and particularly systems that are not in the immediate area, does several things. First, it prevents an enemy from being able to tell which assets are being defended. Second, it makes it impossible to determine ahead of time which defensive systems have a shot at an incoming missile. Lastly, it prevents an adversary from being able to take down our defenses by targeting a single node. I would summarize Phase 2 as the transition phase where we move from classic concepts of single asset employment to a modern networked concept.

PAA Phases 3 and 4

PAA Phases 3 and 4 add significant operational capability and continue to leverage and build on the netted infrastructure of the earlier phases. The key capability in Phase 3 is the addition of the SM-3 IIA which further greatly expands the defended area against MRBMs and Intermediate Range Ballistic Missiles (IRBMs). SM-3 IIA will be fielded with both Aegis ships and land-based SM-3 systems. Phase 4 adds SM-3 IIB which is capable of engaging potential future ICBMs from today's regional ballistic missile threats. This is the first capability beyond GBIs, and provides enhanced defense of the Homeland. The SM3 IIB adds the ability to intercept MRBMs and IRBMs early in their flights which allows the warfighter to thin out large raid sizes early and suppress the use of countermeasures by engaging a missile before they are deployed. It also has the engagement range to enable a Shoot-Look-Shoot firing doctrine.

Phases 3 and 4 will both continue the use of netted employment and its inherent advantages. At the completion of Phase 4, Combatant Commanders will have obtained multiple defensive capabilities across the entire ballistic missile threat regime from SRBMs to ICBMs. It's worthwhile at this point to contrast the Europe PAA with the previous approach for defense of Europe to further illustrate the operational impact. Under the previous GBI approach we could defend portions of Europe, but the primary benefit was defense of the US Homeland. Under PAA we defend increasing areas of Europe, enhance that of the Homeland, and develop capabilities that can be deployed worldwide. So

operationally, PAA does much more than support a specific Combatant Commander, it provides capabilities that can be employed by every Combatant Commander. This is major step forward in protection for the US and its allies.

A key concern the warfighters had going into the BMDR was what the impact might be on timely delivery of capability. The PAA is very closely aligned with MDA's BMDS plans and in many cases draws from mature technology (such as Aegis and Standard Missile). I would also like to point out that MDA's Integrated Master Test Plan encompasses the PAA phases and their development approach includes warfighters operating the new hardware under simulated war scenarios. The Department is very confident that we can maintain schedule and get capability to the Combatant Commands.

Before I leave the operational discussion of the PAA Phases, I wanted to reinforce the point that missile defense is not an isolated mission but part of a larger campaign against an adversary. While missile defenses, of themselves, do enhance our deterrent against potential adversaries, should an attack occur they are not meant to be the sole means of response. Rather, missile defenses prevent an adversary from winning the fight with the first wave of their attack, and provide time for our offensive response capabilities to be brought to bear.

Analysis Supporting PAA Development

Building a missile defense is a blend of determining what the right technology is and how many of each system is acquired. In operational terms this gets shortened to "how much PAA do we need?" A simple phrase, but a very complex problem. Further, this has to be answered in the context of our overall capabilities requirements in different Areas of Responsibility (AORs) and under various planning scenarios.

I referred earlier in my statement to the Joint Capability Mix (JCM) studies as the method the Department has adopted to address this problem. We previously conducted JCM I in 2005-2006 and JCM II in 2007-2008; the latter was briefed to this sub-committee in September 2008. The final report on the current assessment, JCM III, which focuses on the force requirements

for the PAA, will not be completed until March of 2011, so I do not have any results I can discuss today. However, I think it is important to understand what this study is, how it's being executed, and the kind of results that will be produced.

JCM III is examining our missile defense strategy in the PAA to inform decisions on the number and types of sensors, launchers, and interceptors we require. In order to determine force needs at this level of granularity we have to take into account how the Combatant Commands intend to employ them, what the threats are, and generally how the threat will be expected to be employed. Historically, a lot of these types of studies make assumptions about all these factors based on what other studies have used. We chose not to do this. Instead, we went to the experts. For operational employment information, like asset laydowns and shot doctrine we went to each of the Combatant Commands. We are using how they will conduct BMD operations within their Area Of Responsibility (AOR). For system performance, we went to the experts at the Missile Defense Agency (MDA). In order to keep it all in perspective we set up a joint analysis and review process.

The analysis is executed by the Joint Integrated Air and Missile Defense Organization (JIAMDO) in conjunction with representatives from CENTCOM, EUCOM, PACOM, STRATCOM, NORTHCOM, MDA, the Services, and OSD Cost Assessment and Program Evaluation (CAPE). Officers at the O-6 level from all of these organizations have meetings/video teleconferences every two weeks to review planning, analysis, and results. Every six to eight weeks, a Senior Review Group consisting of myself, the Vice Commander USSTRATCOM, and the Deputy Director, MDA review results and status. Finally, the Vice Chairman of the Joint Chiefs of Staff and the Director, Cost Assessment and Program Evaluation receive quarterly updates. At the completion of the study, the results will be briefed to the JROC, the Missile Defense Executive Board, and finally to the Deputy Secretary of Defense's Advisory Working Group for approval.

Although this appears to be a rather laborious structure, in reality it works quite smoothly and we have found that it is very effective in getting Combatant Commands, Services, and systems developer input, to keep our efforts coherent and complete as we work through all the factors. The results of this effort are what matters. I felt it was important that you are aware of the significant level of warfighter and developer involvement in the process in order to understand why we have such a high level of confidence in the results.

I would also like to spend a couple of minutes discussing the study methodology. To begin, each of the Combatant Commands has given us a detailed list of assets which need to be protected in his AOR. That was followed by a Combatant Command laydown of missile defense systems required to defend these assets. At this point, various threat vignettes are run to determine which mix of shooters and sensors provide an acceptable level of defense. The metric I want to key in on here is that we are not shooting for perfect defense. First, we expect that each Combatant Command will have some capability to degrade an adversary's ballistic missile launch capability, lessening the load on missile defense assets. The Combatant Commands have given us their inputs on that capability. Secondly, we realize there are no absolutes in the real world so the product of the analysis is what we refer to as a relative risk curve, rather than an absolute statement of how many missiles or radars to buy. That means we will show various combinations of shooters and sensors versus Combatant Command threats with a key measure being the number of enemy missiles that leaked through and struck their targets. We have found that these curves provide significant insight into the force laydowns and where there is a diminishing return on investment. Let me give you one example. Without going into classified details, we have found instances where adding dozens of interceptors had no appreciable effect on the number of leakers (decreased the leakers by only one or two in a much larger raid sizes). This is a counter-intuitive result until it is presented in the context of an operational scenario where there are real world limits on where and when

defensive systems can shoot. These types of force mix curves will be presented to senior leaders for decisions on force acquisition and allocation.

To prepare for employment of these highly complex systems, the Geographic Combatant Commanders are working closely with US Strategic Command, the Missile Defense Agency and the Services to develop operational concepts and contingency plans. This is especially important work in the areas where threat missiles will cross regional boundaries. In these situations, the Commands must pre-coordinate data sharing and responses to ensure that targets are accounted for and that the system operates as efficiently as possible. In addition, these plans will provide guidance on logistics, command and control of the deployed forces.

PAA and NATO

As I mentioned earlier, NATO has just taken the decision that ballistic missile defense is "...a core element of our collective defence." In both my role as the Director of JIAMDO, and as the US head of delegation to the NATO Air Defense Committee, I have spent a significant amount of time discussing the PAA with various Allies and friends throughout Europe. What resonates with our Allies is the fact that the US is not building a missile defense system in isolation. Our Allies are appreciative of our efforts to include them in our discussions and explain our missile defense concepts and approaches. The PAA concept and implementation provides the opportunity for Allies and partners across the globe to participate with and alongside US systems. Not only is this the right thing to do, it is a very effective and efficient approach to missile defense that allows both all participants to leverage the investment the other nations are making. The recent MDA demonstration of C2BMC with NATO's ALTBMD is a premier example of the right approach to follow.

Now that NATO has made the decision, the US BMDS capabilities of the European PAA will constitute our national contribution to this mission. We will work closely within the Alliance to craft the appropriate command and control structure to provide for the effective defense of ourselves and our

partners from ballistic missile threats in the region. Additionally, we are working with the Russian Federation both bilaterally and through the NATO-Russia Council to ensure transparency in our planning and deployment of missile defenses and to find ways to engage the Russians as partners in missile defense.

Summary

The Department is investing a significant portion of its budget in missile defense and the PAA is providing the necessary framework to ensure it is invested effectively and wisely. The PAA is shaping the integration and networking of our systems across the Services, Combatant Commands, and allies which is the correct path to successful and effective missile defense. We have established a solid process and analytic approach to monitor and guide the implementation of the PAA and expect to develop and field the phases in the most cost efficient manner possible.

Thank you for the opportunity to testify. I look forward to answering your questions.

Deputy Assistant Secretary of State Frank A. Rose
Testimony for the House Armed Services Committee
Subcommittee on Strategic Forces

December 1, 2010

Chairman Langevin, Ranking Member Turner, Members of the Subcommittee, thank you for the opportunity to testify today on the Obama Administration's efforts to implement the European Phased Adaptive Approach and the State Department's role in those efforts. Under Secretary Tauscher regrets that she could not participate in person but looks forward to continuing to work with you on this issue over the coming months and years.

Last year, President Obama committed the United States to a comprehensive new plan to provide missile defense protection of our NATO European Allies and the United States. This plan focuses on deploying proven and more cost-effective systems, and will protect our Allies sooner than the previous plan put forward in 2007. This plan has also opened up new opportunities for cooperation with our Allies and has enhanced NATO's Article 5 commitment to collective defense. The result will be a missile defense system that protects all of our NATO European Allies and enhances the defense of the United States against ballistic missile threats.

Two weeks ago, NATO decided at the Lisbon summit to develop a NATO missile defense capability as a core contribution to the collective defense and protection of populations, territory, and forces. NATO's new Strategic Concept clearly states that to ensure NATO has the full range of capabilities to deter and defend against any threat to the safety and security of our populations NATO will develop the capability to defend itself against ballistic missile attack. The Summit declaration also goes on to state, in part:

> "The threat to NATO European populations, territory and forces posed by the proliferation of ballistic missiles is increasing. As missile defence forms part of a broader response to counter this threat, we have decided that the Alliance will develop a missile defence capability to pursue its core task of collective defence. The aim of a NATO missile defence capability is to provide full coverage and protection for all NATO European populations, territory and forces against the increasing threats posed by the proliferation of ballistic

missiles, based on the principles of the indivisibility of Allied security and NATO solidarity, equitable sharing of risks and burdens, as well as reasonable challenge, taking into account the level of threat, affordability and technical feasibility, and in accordance with the latest common threat assessments agreed by the Alliance."

The Alliance also welcomed the U.S. European Phased Adaptive Approach (EPAA) as an important national contribution to this effort. NATO also decided to expand its missile defense command and control system to include territorial missile defense. This is a clear example of our NATO Allies' support for missile defense, including the EPAA.

Let me explain why this new approach has received such support from our Allies.

First, this new approach provides protection for all of our NATO European Allies. The previous system did not cover all of them. The new approach once fully implemented will provide protection for all of our NATO European Allies and focuses on addressing the threat based on the principles of the indivisibility of Allied security and in accordance with the latest common threat assessments agreed by the Alliance.

Second, because all of our European NATO Allies will be covered, and because the structure allows other nations to contribute capability, we were able to successfully put this approach to missile defense squarely in a NATO context as was decided at the Lisbon Summit. Missile defense is now firmly entrenched in NATO as both the summit declaration and Strategic Concept make it clear, NATO will develop missile defense as part of the Alliance's core task of collective defense.

Finally, this new approach creates more opportunities for burden sharing and cooperation among our NATO Allies through a formalized NATO Command and Control system. Under this approach, we will be able to plug voluntary national contributions from the United States and our NATO Allies' into the overall NATO capability. We are encouraging our Allies that have missile defense assets, such as PATRIOT interceptors or Aegis warships to contribute their systems to this NATO capability. Obtaining Allied agreement at Lisbon to expand the scope of the Alliance's Active Layered Theater Ballistic Missile Defense (ALTBMD) command and control system to provide this connectivity is all the more impressive considering the budget difficulties many Allies face, and the existence

of many competing Alliance priorities. The Lisbon Summit was a clear statement by the Alliance of its commitment to missile defense.

Beyond the benefits this approach will have for our NATO Allies, it also strengthens our ability to defend the United States. The deployment of the AN/TPY-2 radar in Southern Europe in the 2011 timeframe will augment the capabilities of our existing Ground-based Midcourse Defense (GMD) system to intercept long-range missiles launched from the Middle East, should that threat emerge. In many ways, this is analogous to the AN-TPY-2 radar deployed in Japan that serves to assist with the defense of Japan and U.S. territory from the North Korean threat.

Furthermore, by 2020, we will deploy the SM-3 Block IIB missile, which will be capable of intercepting long-range ballistic missiles from states like North Korea, and will complement the protection of the U.S. already provided by the existing GMD sites in Alaska and California.

Finally, the Obama Administration's plan focuses on deploying existing and proven missile defense systems. The Missile Defense Agency, working with the Department of Defense's independent testing organization, has developed a plan to test all of these capabilities to ensure they are operationally effective before we deploy them. For example, MDA will install Land-Based SM-3 for testing at the Pacific Missile Range Facility. While the SM-3 interceptor has a proven test record, this will allow the United States to ensure that the entire system we deploy to Europe has met the "fly-before-you-buy" criteria.

Beyond these critical elements of the European Phased Adaptive Approach, let me now discuss the excellent progress that has been made bilaterally in implementing the new approach.

As we implement the European Phased Adaptive Approach, there are three critical areas where the State Department is playing a lead role in negotiating the necessary basing and status of forces agreements to deploy elements of the European Phased Adaptive Approach in host nations. These include deployment of the Phase 1 (2011 timeframe) forward deployed radar, the Phase 2 (2015 timeframe) Land-Based SM-3 interceptor site, and the Phase 3 (2018 timeframe) Land-Based SM-3 interceptor site.

On the deployment of the Phase 1 radar, once agreement on a location has been reached we are prepared to begin formal negotiations on a basing agreement.

For the Phase 2 Land-Based SM-3 interceptor site, Romania has agreed to host it. This past February, Under Secretary Tauscher travelled to Romania and met with Romanian President Traian Basescu to extend President Obama's offer to deploy the Phase 2 site in Romania. This site is designed to add to the protection of Southern Europe provided by Aegis ships deployed in Phase 1. Romania is a strong NATO Ally, with forces in Afghanistan, and Romania's geographic location makes it an excellent candidate for hosting the Phase 2 site. Following a meeting of the Romanian National Security Council in February, Romania accepted our offer and in June of this year we commenced formal negotiations on a missile defense basing agreement. We have now held three rounds of negotiations on this agreement and are making excellent progress toward a final document. The U.S. and Romania have a Supplemental Status of Forces Agreement to the NATO SOFA in force, signed in 2005 and U.S. forces stationed in Romania under the auspices of U.S. European Command's Task Force-East.

Finally, Poland agreed in October 2009, just one month after announcing the European Phased Adaptive Approach, to host the Phase 3 SM-3 interceptor site in the 2018 timeframe. Poland's geographic location makes it an excellent candidate to provide protection for Northern Europe against ballistic missile threats from the Middle East. Since October 2009, the United States and Poland have made excellent progress on the necessary agreements to implement this deployment. In December 2009, the United States and Poland signed a Supplemental SOFA to the NATO SOFA. It was subsequently ratified by the Polish Government on February 12, 2010. On July 3, 2010, the United States and Poland signed a Protocol amending the original 2008 Ballistic Missile Defense Agreement (BMDA). This protocol will allow for the deployment of the Land-Based SM-3 interceptor site in Poland. The next step to bring this agreement into force is ratification by the Polish parliament.

In all of these cases, we are extremely grateful for the decisions undertaken by our NATO Allies to host elements of the European Phased Adaptive Approach. Such decisions are an extremely valuable contribution to the development of a NATO missile defense capability.

Before I close, let me touch on the subject of missile defense and Russia. We did not design the European Phased Adaptive Approach in response to Russian concerns. We decided to proceed with the new approach because we believed that it is simply a better plan both for the defense of our NATO European Allies and for the defense of the United States.

We have repeatedly worked at the highest levels of the United States Government to be transparent with Russia. Neither the previous approach nor our approach to European-based missile defense threatens Russia's strategic deterrent. This Administration, as well as the previous two Administrations, has been clear that our missile defenses are not directed against Russia.

We have a real opportunity at this time to begin missile defense cooperation with Russia both bilaterally and within the NATO-Russia Council that will greatly improve regional and international security. We have embarked on a bilateral Joint Threat Assessment dealing with ballistic missiles, which we expect to complete around the end of this year or early next year, and concluded a Joint Review of 21st Century Security Challenges in the NATO-Russia context. We are also looking to renew our bilateral and NRC theater missile defense exercise programs with Russia and will, in the words of the NRC Joint Statement, "develop a comprehensive Joint Analysis of the future framework for missile defense cooperation." We will continue to work with Russia to develop ideas for concrete and practical bilateral missile defense cooperation, including building on the Bush Administration's proposals.

Even as we seek greater cooperation with Russia on missile defense, it is important to remember that the United States will continue to reject any constraints or limitations on our missile defense plans. Russia will not get a "veto" over U.S. missile defenses in Europe, or anywhere else. As President Obama has stated, we seek cooperation with Russia, but we have made it, "absolutely clear that our commitments to all of our allies in NATO is sacrosanct and that our commitment to Article 5 continues."

Chairman Langevin and Ranking Member Turner, I want to close by thanking you and the rest of the Subcommittee for your continued efforts on missile defense. This Subcommittee continues to play an important bipartisan role in ensuring that the missile defenses we deploy are operationally effective and provide the best protection to our homeland, our military forces, our allies, and our friends. I look forward to continuing to work closely with you over the coming years.

Statement by Under Secretary of State Ellen O. Tauscher
House Armed Services Committee
Subcommittee on Strategic Forces

December 1, 2010

Chairman Langevin, Ranking Member Turner, and members of the Strategic Forces Subcommittee, thank you for the opportunity to submit this statement as part of the hearing record. I regret that I could not appear in person. As you know, this is an issue that I care about deeply and have been intensely involved in throughout my career, including when I was privileged to serve with many of you as the Chair of this important Subcommittee.

The Subcommittee on Strategic Forces plays an invaluable bipartisan role in ensuring that the missile defenses we deploy are operationally effective and provide the best protection to our homeland, our military forces, our allies, and our friends.

When I testified last year before the House Armed Services Committee, President Obama had just set forth his plan, the European Phased Adaptive Approach (EPAA), to significantly improve our ability to protect the United States and our European NATO Allies from ballistic missile threats. Any concern at that time that this new approach might upset Allies has proved to be unfounded.

Indeed, at the NATO Summit in Lisbon on November 20, our NATO allies made a momentous decision to pursue a missile defense capability for the Alliance, to protect their populations, territories, and forces against ballistic missile threats. The United States has been encouraging its NATO Allies to take up this vital mission for almost ten years. In addition, NATO Allies welcomed the EPAA as an important voluntary U.S. national contribution to that mission.

The EPAA will deploy defenses for our NATO European Allies against the existing short- and medium-range ballistic missile threat, while also enhancing the U.S. capability to defend against long-range missile threats. Over time, we will expand the EPAA to counter any emerging longer-range missile threats to the United States and our Allies. In short, the EPAA provides greater coverage sooner to all of our European Allies than the previous plan, which is why NATO has unanimously welcomed it. The EPAA also will increase opportunities for greater cooperation and burden-sharing among our NATO Allies.

As we look to 2011, the United States is preparing to implement Phase 1 of the EPAA. The State Department, in close coordination with the Defense Department and other interagency colleagues, is working to ensure that all the necessary legal agreements are in place in time to support the deployment of the EPAA. Phase 1 is important because the AN/TPY-2 will be used to provide early tracking information to deployed missile defense systems as part of the EPAA. As mentioned above, Phase 1 also will strengthen our ability to defend the United States by enhancing our existing capability to track and intercept long-range ballistic missiles. To continue building on that capability for us and our Allies, the Obama Administration is committed to carrying out Phases 2, 3, and 4.

In addition, the Obama Administration, just like the previous Bush Administration, is seeking missile defense cooperation with Russia because it is in the U.S. national security interest. We believe cooperation can demonstrate that U.S. and NATO plans and programs are not a threat to Russia and its strategic forces. Such strong cooperation might also dissuade other states from developing ballistic missiles capable of targeting our countries.

We have a real opportunity at this time to begin missile defense cooperation—both bilaterally with Russia and within the NATO-Russia Council—that will greatly improve regional and international security. In Lisbon, NATO and Russia agreed on missile defense cooperation activities, including resuming theater missile defense exercises. As President Obama stated, "by moving ahead with cooperation on missile defense, we can turn a source of past tension into a source of cooperation against a shared threat."

As we move forward, the United States will not accept—and has not accepted or participated in negotiations to accept—any limitations on our missile defense capabilities. We have repeatedly communicated our commitment to developing the most effective missile defenses possible and our opposition to any limits on those defenses to the Russian Government at the highest levels.

Chairman Langevin and Ranking Member Turner, I want to thank you and the rest of the Subcommittee for your efforts on missile defense and your contributions to U.S. national security. I look forward to continuing to work closely with you over the coming years on this and many other issues.

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

DECEMBER 1, 2010

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. The Congress has been deeply concerned with the proliferation of cruise missile technology and its impact on U.S. deployed forces. On June 16, 2010, Secretary of Defense Gates testified before Congress that he was concerned with the ". . . extraordinary Chinese deployment of all manner of cruise and ballistic missiles." How does the Administration plan to address the threats of cruise missiles and unmanned air systems to the land-based components of the PAA that are focused on intercepting SRBM, MRBM and SRBM?

Dr. MILLER. The Department considers cruise missiles (CMs) and unmanned aircraft systems (UAS) as part of the larger air-breathing threat set (as opposed to the ballistic missile threat), which also includes manned fighters and bombers. The defensive systems we have developed (e.g., F–22, Patriot, Aegis ships, E–3), and are developing or improving (e.g., F–35, advanced fighter radars, SM–6) will be capable of addressing the CM and UAS threats. Additionally, some of the systems that perform ballistic missile defense (BMD) also have an inherent capability to defend against CMs, UAS, and other air-breathing threats. Combatant Commander defensive plans account for the full spectrum of air and missile threats, and allocate air defense assets and capabilities to provide comprehensive coverage of all critical assets including BMD elements.

Mr. LANGEVIN. The Congress has been deeply concerned with the proliferation of cruise missile technology and its impact on U.S. deployed forces. On June 16, 2010, Secretary of Defense Gates testified before Congress that he was concerned with the ". . . extraordinary Chinese deployment of all manner of cruise and ballistic missiles." How does the Administration plan to address the threats of cruise missiles and unmanned air systems to the land-based components of the PAA that are focused on intercepting SRBM, MRBM and SRBM?

General O'Reilly. MDA's mission does not include air-breathing threats. However, MDA works closely with the Services and the Joint Staff to ensure their systems are integrated with the Ballistic Missile Defense System to the greatest extent possible.

Service capabilities that are or will be capable of addressing air-breathing threats include systems that are currently fielded (e.g. F–22, Patriot, Aegis ships, and E–3) and systems in development (e.g. F–35, advanced fighter radars, and SM–6). Combatant Commander defensive plans account for the full spectrum of air and missile threats, and allocate air defense assets and capabilities to provide comprehensive coverage of all critical assets including BMD elements. The Department is confident that the air defense systems being fielded are capable of preventing these threats from having a significant impact on our ballistic missile defense capability.

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Admiral MACY. The Department considers cruise missiles (CMs) and unmanned aircraft systems (UAS) as part of the larger breathing threat set (as opposed to the ballistic missile threat), which also includes manned fighters and bombers. The defensive systems we have developed (e.g., F–22, Patriot, Aegis ships, E–3), and are developing or improving (e.g., F–35, advanced fighter radars, SM–6) will be capable of addressing the CM and UAS threats. Additionally, some of the systems that perform ballistic missile defense (BMD) also have an inherent capability to defend against CMs, UAS, and other breathing threats. Combatant Commander defensive plans account for the full spectrum of air and missile threats, and allocate air defense assets and capabilities to provide comprehensive coverage of all critical assets including BMD elements. The Department is confident that the air defense systems that are being fielded will be capable of preventing these threats from having a significant impact on our ballistic missile defense capability.

QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. We understand that the Missile Defense Agency conducted a summer study (in 2010) on the hedging strategy. Can you provide the committee with the study results and any other detailed contingency or hedge plans?

Dr. MILLER. The Missile Defense Agency (MDA) along with the support of Joint Staff, Combatant Commanders and Federally Funded Research and Development Centers, conducted and provided the summer study results to the Missile Defense Executive Board. The Department can provide, at the classified level, a summary of the results, as well as further hedge planning to the Committee.

Mr. TURNER. You've stated that the U.S. homeland is currently protected against a threat of limited ICBM attack by 30 ground-based interceptors located at Fort Greely, Alaska, and Vandenberg, California. Discuss why it was then necessary to provide further coverage of the United States homeland in Phase 4 of the European Phased, Adaptive Approach? What needs/requirements are Phase 4 capabilities expected to satisfy?

Dr. MILLER. Phase 4 of the European Phased, Adaptive Approach (EPAA) provides defense in depth. The ability to put up more than one layer of defensive capability increases the likelihood of success. The SM–3 IIB interceptor, to be deployed in Phase 4 of the EPAA, will be the first layer of our homeland defense system, with Ground-based Midcourse Defense (GMD) providing the second layer. Having another layer enhances the overall probability of intercepting intercontinental ballistic missiles (ICBMs). The SM–3 IIB provides a backup if for some reason there is a development or performance issue with the Ground-Based Interceptors (GBIs), or a temporary outage or failure with the Ground-based Mid-course Defense system. The SM–3 IIB design and key components are different from that of the GBIs, which provides additional assurance that the overall U.S. defensive system will be able to defend the United States.

Mr. TURNER. We appear to be seeing troubling new developments in both North Korea and Iran's longer-range missile programs. Are you more concerned today than last year about the threat of Iran and North Korea developing and deploying an IRBM or ICBM? Do these threat developments change your approach in any way?

Dr. MILLER. The European Phased, Adaptive Approach (EPAA) includes visible actions beginning in Phase 1, including the deployment of a BMD-capable Aegis ship to the Mediterranean and a forward-deployed AN–TPY2 radar in Southeastern Europe in 2011. The basing of land-based interceptor sites in Romania (by 2015 and Poland (by 2018) provides a more permanent and substantial posture; the signing and ratification of the agreements to support those bases demonstrates a commitment to missile defense that is visible to both our allies and potential adversaries.

Mr. TURNER. A former OSD Policy official testified before this committee in March 2007 that, "The advantage of mobility is flexibility . . . But there is also an important advantage to ground-based silos. That advantage is permanence . . . Both our allies and potential adversaries will know with certainty that a missile defense capability is in place. These missile defense assets then will be able to both assure allies and deter and dissuade adversaries at all times once they are fielded." Do you believe a permanent force presence matters in the assurance of our allies? How does the U.S. provide that same assurance to allies and deterrence to potential adversaries with the European Phased, Adaptive Approach, especially since it relies on all mobile systems in the near- and mid-term that may not be available to deploy to Europe if allocated to other theaters?

Dr. MILLER. The European Phased, Adaptive Approach (EPAA) includes visible actions beginning in Phase 1, including the deployment of a BMD-capable Aegis ship to the Mediterranean and a forward-deployed AN–TPY2 radar in Southeastern Europe. In addition to these actions, NATO decided to develop a missile defense capability to protect all NATO European populations, territory and forces at the recent Lisbon Summit. As the United States makes the EPAA its contribution to this NATO effort, our Allies will know what the United States has committed to the collective defense of the Alliance and will have a say in operational planning. Finally, the basing commitments for the land-based interceptors sites from Poland and Romania, along with the signing and ratification of the agreements to support those bases, demonstrates a commitment to missile defense that is visible to both our allies and potential adversaries.

Mr. TURNER. Dr. Miller, you credited the Bush Administration with pursuing missile defense cooperation with Russia. Yet the Obama Administration has criticized its predecessors for lack of such cooperation. What is this Administration offering to Russia that you believe could lead to Moscow's participation despite criticism from its government officials of the European Phased, Adaptive Approach and threats of an "arms race" if the U.S. improves its missile defenses?

Dr. MILLER. The Obama Administration believes that missile defense cooperation with Russia is in the national security interests of the United States, as did the Bush Administration. We believe that our ongoing efforts to work collaboratively with Russia in areas where both our countries share a mutual interest has created a significantly improved bilateral environment, and therefore an opportunity for, bilateral and multilateral BMD cooperation.

An example of this opportunity in a multilateral context was the agreement by NATO and Russia at the NATO–Russia Council (NRC) meeting in Lisbon on November 20, 2010, to resume theater missile defense cooperation and to develop a comprehensive Joint Analysis of the future framework for NATO–Russia BMD cooperation.

In the context of our bilateral relationship, BMD cooperation can be a vehicle to bring both the U.S.-Russia and the NATO–Russia partnerships to a new level and could enable our two countries to work together in a coordinated manner against the common challenges, dangers, and threats of ballistic missiles of increasingly greater ranges, potentially equipped with weapons of mass destruction.

As senior Administration officials have explained to Congress, as well as to their Russian counterparts, the United States will not agree to constrain or limit U.S. missile defenses qualitatively, quantitatively, operationally, geographically, or in any other way. The Administration is committed to the development and deployment of effective missile defenses to protect the United States, our deployed forces, and our allies and partners against existing and emerging threats.

Mr. TURNER. We understand that the Missile Defense Agency conducted a summer study (in 2010) on the hedging strategy. Can you provide the committee with the study results and any other detailed contingency or hedge plans?

General O'Reilly. As directed in the Defense Planning and Program Guidance (DPPG), the Missile Defense Agency (MDA) along with the support of Joint Staff, Combatant Commanders and Federally Funded Research and Development Centers, conducted and provided the summer study results to the Missile Defense Executive Board. The Department can provide, at the classified level, a summary of the results to the Committee.

Mr. TURNER. You've stated that the U.S. homeland is currently protected against a threat of limited ICBM attack by 30 ground-based interceptors located at Fort Greely, Alaska, and Vandenberg, California. Discuss why it was then necessary to provide further coverage of the United States homeland in Phase 4 of the European Phased, Adaptive Approach? What needs/requirements are Phase 4 capabilities expected to satisfy?

General O'Reilly. The 2020 Phase 4 architecture adds an additional layer of defensive capability that increases the likelihood of engagement success against evolving and projected ICBM threats from the Middle East. The interceptor's reliability, availability, and probability the kill vehicle can acquire and engage a target are all factors in the probability of engagement success. Also, as independent BMD systems are layered, the probability of engagement success increases. The SM–3 IIB interceptor comprises the first layer of our homeland defense system, proving early intercept, and the Ground-based Midcourse Defense provides the second layer which enhances the overall probability of intercepting ICBMs with two different missile defense systems. In addition, by having two independent BMD components, the system is made more flexible and adaptable to changes in threat missile designs and capabilities.

The development of the SM–3 IIB interceptor with a higher burnout velocity and a greater divert capability than other SM–3 variants provides an early intercept capability against MRBMs and IRBMs and a hedge to augment homeland defense against future potential ICBMs launched by today's regional adversaries. Early intercept capabilities enhance battlespace with an extended engagement layer that avoids wasteful salvos by shooting an interceptor, evaluating the consequence, and shooting again only if the first intercept attempt was unsuccessful. Intercepting missiles early (pre-apogee) also degrades performance of midcourse countermeasures and counters post-apogee maneuvering reentry vehicles.

Mr. TURNER. We appear to be seeing troubling new developments in both North Korea and Iran's longer-range missile programs. Are you more concerned today than last year about the threat of Iran and North Korea developing and deploying an IRBM or ICBM? Do these threat developments change your approach in any way?

General O'Reilly. We currently have a Ground-based Midcourse Defense system that can provide significant capability against limited ICBM attacks against all near-term estimated threats. We continue to upgrade the system to ensure we maintain the capability hedge.

Mr. TURNER. You noted in your testimony that the Missile Defense Agency supported multiple interoperability demonstrations with NATO's Active Layered The-

ater Ballistic Missile Defense (ALTBMD). Can you elaborate on what these demonstrations have shown in terms of capability, interoperability, lessons learned, etc.? Also, provide a schedule and milestones for ALTBMD plans, including the integration of U.S. missile defense capabilities.

General O'Reilly. The Missile Defense Agency (MDA) has been working with the ALTBMD Program Office (PO) for the last four years to document U.S.-NATO interoperability requirements in Interface Control Documents (ICDs) and to test and demonstrate interoperability between U.S. and NATO missile defense systems.

The MDA has participated in the following missile defense demonstrations, tests, and exercises with NATO and Alliance partners:

January 2008: Initial interoperability demonstration between the U.S. Command and Control, Battle Management and Communications (C2BMC) System and a prototype of the NATO Air Command and Control System (ACCS).

November 2008: Interoperability test between the U.S. Patriot system and a prototype of the NATO ACCS.

January 2009: Interoperability test between the U.S. Aegis Ballistic Missile Defense (Aegis BMD) system and a prototype of the NATO ACCS.

August 2009: Interoperability test between the U.S. C2BMC system and a simulation of the Army/Navy Transportable Radar Surveillance–2 (AN/TPY–2) system with a prototype of the NATO ACCS.

July 2010: Joint Project Optic Windmill (JPOW), a warfighter exercise involving the mixture of simulated, hardware-in-the-loop (HWIL), and live systems from the U.S., NATO, Germany, Spain, and The Netherlands. This event focused on the development of joint Tactics, Techniques, and Procedures (TTPs).

December 2010: NATO Ensemble Test 1, the first multinational interoperability test conducted by NATO with participation from the U.S., Germany, Italy, France, and The Netherlands. The U.S. systems involved in this test were live and HWIL representations of C2BMC, Aegis BMD, Patriot, and a simulation of AN/TPY–2. The NATO systems participating in the test were live versions of the ACCS prototype and Integrated Command and Control (ICC) that will be deployed as part of the NATO Interim Capability–2 (InCa2) at the end of December 2010.

The tests and exercises with NATO have proven the U.S. C2BMC & AN/TPY–2, Patriot, and Aegis BMD systems can interoperate with the NATO command and control systems and other Alliance systems using standardized Tactical Data Links communications (Link–16). The tests successfully demonstrated the two-way exchange of situational awareness, command and control, health and status, and engagement information between the U.S. and NATO systems.

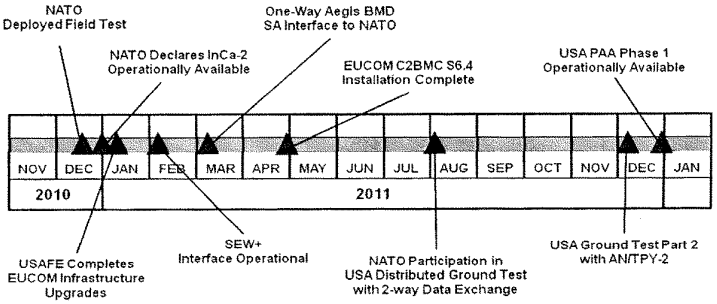
The emerging results from Ensemble Test 1 indicate the U.S. systems will also be interoperable using Link–16 with the German Patriot and Surface-to-Air Missiles Operations Center (SAMOC), the French Sol-Air Moyenne Portèe Terrestre (SAMP/T), the Italian SAMP/T and Horizon/Principal Anti-Air Missile System (Horizon/PAAMS), and the Dutch Patriot and Air Defense and Command Frigate (ADCF).

MDA, the ALTBMD PO, and military operators from the U.S. European Command (EUCOM) and NATO Supreme Headquarters Allied Powers Europe (SHAPE) successfully demonstrated during the JPOW exercise that the U.S. and NATO interoperability can support a variety of command and control Concept of Operations (CONOPs), preplanned engagement strategies, and upper-tier/lower-tier coordination schemes that are still being developed and agreed upon between the U.S. and NATO.

The MDA and ALTBMD PO have also conducted a series of planning experiments to Demonstrate that military operators from NATO and the U.S. can exchange missile defense plans using a NATO approach for missile defense operations. As a result of these experiments, the MDA is currently working with NATO to revise the Interface Control Documents and implementation for the exchange of missile defense planning data. The revised approach is more collaborative and will reflect the planning method used by U.S. forces today.

ALTBMD Program Office made Interim Capability–2 (InCa–2) available for operations in December 2010, Initial Operational Capability (IOC) Increment–1 in 2013 and IOC Increment–2 in late 2014. The first NATO upper-tier capability is projected in approximately 2016. The figure below illustrates the draft milestones for the interoperability of U.S. Phased, Adaptive

Approach (PAA) Phase 1 with NATO Interim Capability-2 in 2011.



Following NATO's decision to pursue territorial missile defense, MDA will work closely with NATO to align EPAA systems with NATO ALTBMD capability builds.

Mr. TURNER. Given the recent in-sourcing initiatives, and DoD proposals of trimming a percentage of contracting positions, what is the current MDA in-sourcing plan? How will the plan address personnel shortfalls and address the risks associated with the potential shortage of technical expertise?

General O'Reilly. During the course of FY 2010 MDA established and filled 237 civilian authorizations as a result of insourcing actions. The continuation of insourcing beyond FY 2010 will be subject to the Department's final guidance for the 2012 President's Budget.

MDA policy also requires each employee to conduct, at a minimum, 80 hours of mandatory annual training. Functional Managers and supervisors develop and issue functional organizational training objectives and career guides to ensure a fully trained MDA workforce. Each level of supervision requires a commitment to develop employee skills and competencies needed to maintain effective job performance, taking into account present and future technical skills by employment category. Supervisors work with employees to develop Individual Development Plans that encompass a short-term, mid-term and long-term career development guide that is subject to supervisor approval, and included as part of the employee process evaluation. MDA employees are required to obtain annual certification for various skill sets and occupational fields. For example, as an acquisition centric agency, MDA requires employees to obtain Defense Acquisition University (DAU) Certification. DAU certification is a tiered program with levels one through three based on a combination of experience and responsibility.

MDA has also established the Missile Defense Career Development Program (MDCDP) to ensure we have a workforce with technical expertise to meet emergent program requirements. The MDCDP is a two-year developmental program consisting of rotational assignments aimed at strengthening the overall experience of the participant and preparing them for conversion to a permanent government career upon completion. MDA presently has 279 participants in the MDCDP.

MDA has significant technical expert resources (FFRDCs, UARs, CCS, universities, industry, national labs). We continue to align the application of this significant technical expertise to meet challenges while continuing to seek greater efficiency.

Mr. TURNER. We understand that the Missile Defense Agency conducted a summer study (in 2010) on the hedging strategy. Can you provide the committee with the study results and any other detailed contingency or hedge plans?

Admiral MACY. We must defer this question to the Missile Defense Agency, as the study results are classified and MDA has responsibility for access.

Mr. TURNER. Admiral Macy, please provide the committee with any analysis and contingency plans for defense of the U.S. homeland under the following scenarios: 1) where the missile fields in Alaska are not able to shoot, 2) where the missile fields in California are not able to shoot, or 3) one of the upgraded early-warning radars (e.g., at Fylingdales or Thule) are not operational.

Admiral MACY. Specific contingency plans are more appropriately the purview of the combatant commander, and the Joint Staff would defer to U.S. Northern Command on this topic. However, as a general developmental principle, the Ballistic Missile Defense System is designed to provide backup capability for scenarios such as those described.

Mr. TURNER. You've stated that the U.S. homeland is currently protected against a threat of limited ICBM attack by 30 ground based interceptors located at Fort Greely, Alaska, and Vandenberg, California. Discuss why it was then necessary to provide further coverage of the United States homeland in Phase 4 of the European Phased, Adaptive Approach? What needs/requirements are Phase 4 capabilities expected to satisfy?

Admiral MACY. Phase 4 of the European Phased, Adaptive Approach (EPAA) addresses several requirements. The first is redundancy. The ability to put up more than one layer of defensive capability increases the likelihood of success. The SM–3 IIB interceptor, to be deployed in Phase 4 of the EPAA, will be the first layer of our homeland defense system, with Ground-based Midcourse Defense (GMD) providing the second layer to enhance the overall probability of intercepting intercontinental ballistic missiles (ICBMs). Second, having an additional capability against an ICBM threat to the homeland provides a backup if for some reason there is a development or performance issue with the Ground-Based Interceptors (GBIs), or a temporary outage or failure of one of the systems. Third, the SM–3 IIB design is different from that of the GBIs, which provides additional assurance that the system will be able to respond effectively to changes in threat missile designs or capabilities. Finally, the additional interceptors in Europe will allow us to engage raids of larger size should the growth of the threat inventory exceed current projections.

Mr. TURNER. We appear to be seeing troubling new developments in both North Korea and Iran's longer-range missile programs. Are you more concerned today than last year about the threat of Iran and North Korea developing and deploying an IRBM or ICBM? Do these threat developments change your approach in any way?

Admiral MACY. We continue to watch North Korea and Iran closely, but there have been no developments that have necessitated significant changes to the planned development of the U.S. Ballistic Missile Defense Systems (BMDS). Because of continuing improvements in the Ground-based Midcourse Defense (GMD) system and the number of ground-based interceptors now deployed compared to potential North Korean and Iranian long-range ballistic missile capabilities, the United States possesses a capability to counter the projected threat from North Korea and Iran for the foreseeable future. With regard to deployment of BMD assets, the essence of a phased, adaptive approach to regional missile defense is the flexibility to phase our fielding to improvements in BMD capability, and to be adaptive to changes in the threat.

Mr. TURNER. Dr. Miller credited the Bush Administration with pursuing missile defense cooperation with Russia. Yet the Obama Administration has criticized its predecessors for lack of such cooperation. What is this Administration offering to Russia that you believe could lead to Moscow's participation despite criticism from its government officials of the European Phased, Adaptive Approach and threats of an "arms race" if the U.S. improves its missile defenses?

Mr. ROSE. The Obama Administration believes that missile defense cooperation with Russia is in the national security interests of the United States, as did the Bush Administration.

The Administration is optimistic about the prospects for ballistic missile defense (BMD) cooperation with Russia. We believe that our ongoing efforts to work collaboratively with Russia in areas where both our countries share a mutual interest has created a significantly improved bilateral environment, and therefore an opportunity for, bilateral and multilateral BMD cooperation.

An example of this opportunity in a multilateral context was the agreement by NATO and Russia at the NATO–Russia Council (NRC) meeting in Lisbon on November 20, 2010, to resume theater missile defense cooperation and to develop a comprehensive Joint Analysis of the future framework for NATO–Russia BMD cooperation.

In the context of our bilateral relationship, the Administration's view is that BMD cooperation may well be a vehicle to bring both the U.S.-Russia and the NATO–Russia partnerships to a new level and could enable our two countries to work together in a coordinated manner against the common challenges, dangers, and threats of ballistic missiles of increasingly greater ranges, potentially equipped with weapons of mass destruction.

As senior Administration officials have explained to Congress, as well as to their Russian counterparts, the United States will not agree to constrain or limit U.S. missile defenses qualitatively, quantitatively, operationally, geographically, or in any other way. The Administration is committed to the development and deploy-

ment of effective missile defenses to protect the United States, our deployed forces, and our allies and partners against existing and emerging threats.

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