CQ CONGRESSIONAL TRANSCRIPTS
Congressional Hearings
April 20, 2010

Senate Armed Services Committee Holds Hearing on President Obama's Fiscal 2011 Budget Request for Ballistic Missile Defense Policies and Programs

LIST OF PANEL MEMBERS AND WITNESSES

LEVIN:

Good morning, everybody. The committee meets today to consider the ballistic missile defense policies and programs, accompanying the president's budget request for fiscal year 2011. We're pleased to have four distinguished witnesses with us today, to consider these matters.

Dr. Jim Miller, principal deputy undersecretary of Defense for Policy, has been deeply involved in all facets of the administration's missile defense policy consideration and their efforts. This includes the phased adaptive approach to missile defense in Europe, announced by the president last September, as well as the quadrennial defense review, the missile -- the ballistic missile defense review and the recently released nuclear posture review.

Dr. Michael Gilmore is the director of Operational Test and Evaluation, DOT&E, at the Department of Defense. His office plays a crucial role in the nation's ability to have confidence that our weapons systems work as intended and this committee has sponsored many improvements in the DOT&E ability to assess the capabilities and testing of our missile defense systems. He has recently submitted to Congress a number of reports related to missile defense and his organization has been instrumental in the development of the new missile defense integrated master test plan.

Lieutenant General Patrick O'Reilly is the director of the Missile Defense Agency, the MDA, which is charged with designing, developing and producing all the elements of the ballistic missile defense system and ensuring that they work together effectively in an integrated fashion to defend our homeland and our forward deployed forces, our allies and our partners.

We will be interested to hear how the $8.4 billion budget request for the Missile Defense Agency supports the policies and strategies presented in the ballistic missile defense review.

Rear Admiral Archer Macy is the director of the Joint Integrated Air and Missile Defense organization of the Joint Staff. His organization works with the combatant commanders to ensure that our missile defense programs are meeting their needs and to consider future needs for our missile defense capabilities.

For example, several years ago, his organization conducted an important analysis of

our combatant commanders' upper tier missile defense needs as compared to the threats facing them. This study, called the Joint Capabilities Mixed Study, concluded that we needed to buy at least twice as many standard missile three and FAT (ph) interceptors as planned to meet the war fighters' needs and that's what this administration plans on doing.

We thank our witnesses for their service, their numerous contributions to the security of our nation, including improving our missile defense policy and programs.

The past year's been a busy one for missile defense. Last April, Secretary Gates announced a number of significant changes to our missile defense approach and programs, including the termination of a number of troubled programs and that increased focus on our regional missile defense. In September, President Obama announced a new phased adaptive approach to missile defense in Europe, which was unanimously recommended by Secretary Gates and the joint chiefs of staff.

This February, along with the budget request, the administration submitted the Quadrennial Defense Review and the ballistic missile defense review. The latter was born in this committee.

Just a few weeks ago, the administration submitted the nuclear posture review, which was also initiated by this committee.

I want to commend the administration, our witnesses today, for their thoughtful and thorough approach to these missile defense matters. I think there are enough -- a number of significant improvements in missile defense that are consistent with this committee's recommendations and they deserve strong bipartisan support.

First, much greater emphasis on meeting the needs of the combatant commanders and in providing the capabilities to defend our forward deployed forces, our allies and partners against existing short and medium-range missile threats from nations like North Korea and Iran. This focus is embodied in the phased adaptive approach that is being used for Europe and other regions.

In this regard, the good news, which sometimes seems overlooked, is that we are ahead of the threat in defending our homeland. We already have a missile defense system in place for the United States, whereas those nations have not deployed long-range missiles that could reach our shores. Our system is being improved and will be supplemented by elements of the phased adaptive approach in Europe.

Second, the administration has adopted a policy of requiring realistic testing and operational testing to demonstrate that our missile defense systems work before we deploy them. This fly-before- you-buy approach is long overdue and brings missile defense into line with all of our other major defense acquisition programs. The new missile defense test plan reflects and supports this new policy and is a significant improvement.

Third, the management oversight of the Missile Defense Agency's program has been strengthened through the missile defense executive board, by making the MVA programs consistent with the weapons systems acquisition reform act of 2009. The administration's focus on fiscally sustainable missile defense is both realistic and essential.

Fourth, the emphasis on international efforts and cooperation should help strengthen regional security against missile threats from nations like Iran and North Korea. This

includes our work with NATO on missile defense in Europe and with regional allies and partners in the Middle East and East Asia.

In this context, I would highlight the possibility of missile defense cooperation with Russia. US-Russia cooperation against Iran would send a powerful signal to Iran of the unity of the world against their threatening policies and programs.

We have an important opportunity to improve our security through cooperation and I look forward to hearing about that potential from our witnesses.

On a final note, concerning the new START treaty, the administration said from the beginning of the negotiations that the treaty does not limit missile defenses. The treaty is about reductions of strategic nuclear arms. I hope our witnesses will comment on that.

Before recognizing our witnesses, let me call on Senator McCain.

MCCAIN:

Thank you, Mr. Chairman. I join you in welcoming our witnesses.

Over the past year, our national policy on missile defense has been substantially revised and I believed and said so at the time; that this administration got off on the wrong foot with its plans for missile defense, undermining two NATO allies, who had much at stake in our previous deployment of these capabilities in Europe.

But with the missile -- ballistic missile defense review and with an increased level of funding for missile defense in the FY '11 budget request, the administration appears to have embraced missile defense. Their proposal to establish a layered global defense -- missile defense in the architecture seems to be scalable and flexible enough to address the threats of today and prepare for those of tomorrow.

By rapidly pursuing the phased adaptive approach, while also providing much needed modernization, sustainment and development funding for legacy systems, such as our ground-based mid-course defense system, this budget represents a seriousness on missile defense from this administration.

Nonetheless, given their abrupt actions in the past, the administration must make a long-term commitment to missile defense and honor all the long-term goals established within their BMD review. Especially the development of the SM-3 Block 2B interceptor, which will provide additional defense to the homeland.

In the event that the proposed development and deployment of later generations of the SM-3 Block interceptor are not achieved within the planned 2018 to 2020 time frame, it's imperative that the administration fully support and fund the development of the two-stage ground-based interceptor, as a technological hedge.

The management of the defense missile agency appears to be turning a corner, as recently highlighted by GAO. Still, there's more to be done, including the establishment of key baselines across all programs and addressing both inadequate quality control and substandard contractor performance.

Poor contractor performance has long plagued many of the department's multi-billion

dollar acquisition programs and I'm encouraged by the steps the Missile Defense Agency is undertaking to withhold profits from contractors responsible for unacceptable, poor or substandard performance.

To illustrate this point, the failed terminal high altitude aerial defense test in December is indicative of the financial and operational consequences that can result from one contractor's carelessness. This critical test, one of the last necessary, to certify the operational capability of this important missile defense system required hundreds of hours to coordinate and over $50 million to field.

However, the test was rendered useless, when the air launch target, as a result of blatant contractor error, failed to ignite, fell from the back of a C-17 and sank to the bottom of the Pacific Ocean.

For far too long, contractors have attempted to cut corners on quality control at an increased cost to the taxpayer. This is simply unacceptable and I look forward to hearing what more you are doing to ensure that all future contracts are structured to demand both accountability and performance.

Missile defense is a key national security priority and its importance will only grow as we take responsible steps to reduce our nuclear arsenal. While the new START treaty has not officially been transmitted to the Senate, Secretary Gates has affirmed that this treaty will not "limit plans to protect the United States and our allies, by improving and deploying missile defense systems."

Nonetheless, I'm concerned that the treaty may establish a low threshold for Russia to withdraw, citing future US missile defense deployments as the rationale.

Unilateral Russian statements to this effect are troubling. Missile defense is not and should not be viewed in Moscow as some new form of post-Cold War aggression. It is, rather, a reasonable and prudent response to the very real threats that the Iranian and North Korean regimes pose to the United States, our friends and our allies.

In the coming months, we will have the opportunity to address -- to assess the treaty and confirm that nothing inhibits our ability to deploy defensive weapons to counter the missile threats of rogue states. Russia must not have veto power over US decisions on our missile defense architecture and I will reject any attempts by this administration or any future administration to do so.

Thank you, Mr. Chairman. I thank the witnesses for their hard work.

LEVIN:

Thank you.

Thank you very much, Senator McCain.

Let us start with Secretary Miller.

MILLER:

Dr. Miller, Chairman Levin, Senator McCain, distinguished members of the committee, thank you for the opportunity to testify today. It's a pleasure to join my colleagues here on the panel.

In February, as the Chairman noted, the Department of Defense published a report on the first ever ballistic missile defense review, or BMDR. In requiring that DOD conduct this review, Congress stipulated that we started with an updated threat assessment. The ballistic missile threat today is increasing both quantitatively and qualitatively and is likely to continue to do so over the next decade. Several states are also developing nuclear, chemical and/or biological warheads for their missiles.

The threat to the U.S. homeland from states like North Korea and Iran continues to develop. Neither has yet acquired ICBMs that could reach the United States, but both are working to acquire and/or develop long-range ballistic missile capabilities, including space launched vehicles, which include many of the necessary technologies.

The threat from short and medium-range missiles has developed rapidly over the past decade. Both Iran and North Korea present a significant regional missile threat.

These conclusions of the missile defense review have been reinforced by a report submitted recently by DOD on the military power of Iran. This report notes that Iran is continuing to improve its missile capabilities and it is also, "at a minimum, keeping open the options to develop nuclear weapons if it chooses to do so."

Based on this threat assessment, the BMDR set six polity priorities for US missile defense.

First, the United States will continue to defend the homeland against the threat of limited ballistic missile attacks. The top priority for U.S. missile defense efforts is to defend the United States from the threat of missile attack by regional actors such as North Korea or Iran. The United States does not intend for our missile defenses to affect the strategic balance with Russia or China.

Through our missile defense programs, the United States seeks to dissuade states such as North Korea or Iran from developing an ICBM and failing this, to deter them from using or, if necessary, to defeat their attacks.

The second policy priority is that the United States will defend against regional missile threats to U.S. forces, while protecting our allies and partners and helping to enable them to protect themselves. As you know, and as was noted, in September 2009, based on unanimous advice of the civilian military leadership of the Department of Defense, the president endorsed a new phased adaptive approach for missile defense in Europe.

Since then, we have concluded agreements with Romania and Poland to host the two planned land-based sites for BMD interceptors, in 2015 and 2018 respectively. More broadly, we've worked closely with our NATO allies on the way ahead for the alliance missile defense.

The BMDR concluded that the United States should pursue a phased adaptive approach, not only in Europe, but also in other regions, particularly Northeast Asia and the Middle East. This approach will be tailored to the threats appropriate to those regions.

The third policy priority stipulated by the BMDR was that the four new capabilities are developed and they must undergo testing that enables assessment under realistic operational conditions. As the chairman noted, we believe fly before you buy.

Flight testing under realistic operational conditions is needed to provide proven capabilities for the defense of the nation and of our war fighters. Our witnesses, including Mr. Gilmore, will have -- or Dr. Gilmore will have more to say about that.

The fourth policy priority was their commitment to new capabilities must be fiscally sustainable over the long term. Our investments in BMD, as in other areas, must be managed to ensure that there are sound capability improvements at reasonable cost and an overall balance with other defense priorities.

The fifth policy priority is that US BMD capabilities must be flexible enough to adapt as the threat changes. Our BMD program is building systems that are mobile and modular to ensure that we can quickly reinforce capabilities in a given region and also so that we can successfully adapt capabilities as the threat evolves.

We are also taking a number of steps to hedge against potential increases in the threat, including, for example, completing missile field two at Fort Greely, Alaska. This will provide the ability to rapidly deploy eight additional ground-based interceptors if needed.

Sixth, and finally, the United States will lead expanded international efforts for missile defense. We are working with allies and partners to strengthen deterrence and build regional security architectures to improve missile defenses and through other measures.

My full statement includes many relevant details. These cooperative efforts are essential to the credibility of extended deterrents and reassurance of our allies and partners.

In sum, the BMDR comprehensively considered US missile defense policies, strategies, plans and programs in the context of current and emerging ballistic missile threats to the United States homeland, to our deployed forces and to our allies and partners. It resulted in a $700 million increase in our BMD funding request for our fiscal year 2011 over 2010 and we believe that it provides a clear and sensible path forward for US missile defenses.

Before closing, I'd like to offer brief comments on a new START treaty in US missile defenses. As General O'Reilly's statement makes clear, the new START treaty does not constrain the United States from deploying the most effectiveness to the feds as possible, nor does it increase costs or add inconvenience.

Senator McCain commented on the Russian unilateral statement on missile defense, associated with the new START treaty and I ask to submit it for the record, along with the related US unilateral statement.

LEVIN:

It will be made part of the record.

MILLER:

Thank you.

I wanted to note here that these statements are not part of the treaty and obviously that's why they're called unilateral statements. They are not unilaterally binding. But they do provide some insight into Russian and US thinking.

I'll take just a moment to speak to that.

The US -- pardon me. The Russian unilateral statement suggests that Russia would consider withdrawing from the new START treaty if there is, "a build-up in the missile defense system capabilities of the United States of America, such that it would give rise to a threat to the strategic nuclear force potential of the Russian Federation."

That is not the case today, nor do we expect it to be the case in the future.

In fact, both sides would have the right to withdraw from a new START treaty if they deemed it necessary for the supreme national interests.

The previous START treaty and most other arms control agreements have similar visions.

The US unilateral statement notes that, as we stated in the BMDR, US missile defenses are not intended to affect the strategic balance with Russia. It then says, quite directly and quite accurately, that, "The United States intends to continue improving and deploying its missile defense systems in order to defend itself against limited attack and as part of our collaborative approach to strengthen stability in key regions."

As this US unilateral statement, the ballistic missile defense review and our budget proposals all make clear, this administration is committed to continuing to improve our missile defenses as needed to defend the US homeland, our deployed forces and our allies and partners.

I ask that my full written statement be entered into the record and I look forward to your questions.

LEVIN:

It will be made part of the record, as will all of the statements. Thank you very much.

Dr. Gilmore.

GILMORE:

Mr. Chairman, Senator McCain, members of the committee, I'll very briefly summarize my written statement.

First, my characterization of demonstrated performance in ballistic missile defense is contained in the report that I submitted to the Congress this past February, which is

required by law as part of the oversight regime that the Congress, and particularly this committee, has created and the role that my office plays in overseeing testing progress in ballistic missile defense.

In that report, I characterized the demonstrated performance of the elements of the BMDS, using a one to six rating scale, with one being the lowest demonstrated capability and six being the highest.

Generally, just that patriot, again, short range ballistic missiles are rated at the highest levels, from four to six, there's many expensive -- relatively extensive testing against short-range threats. Aegis ground-based missile defense and THAAD against MRBMs, medium-range ballistic missiles, intermediate range ballistic missiles and intercontinental range ballistic missiles generally have demonstrated less capability and the less capability is demonstrated as the range of the missiles increases.

With regard to major events over the last year, of course, there was the successful shoot-down of a threat representative missile by the airborne laser. With regard to developments in test planning, as you noted, Mr. Chairman, there was the development of the integrated master test plan, an exercise in which my office played a substantial role.

The IMTP, as it's called, is, in my view, a rigorous plan for conducting the tests and collecting the information that will be needed to verify, validate and accredit all the models that will be absolutely essential to demonstrating confidence in the performance of the missile defense system because we will never be able to test in live flight tests the system throughout the entire battle space that will be relevant.

With regard to challenges in the future, missile defense testing is some of the most complex testing that the Department of Defense conducts. It's very difficult to execute these tests successfully. There have been failures in the past, both with regard to interceptors and the targets and targets in particular are a real challenge, as I'm sure General O'Reilly will discuss.

The realism and reliability of the targets is something that needs work and General O'Reilly has a plan to work on that and to procure a new family of targets that we hope will be more reliable than the ones in the past.

Thank you, and I'll be happy to respond to your questions.

LEVIN:

Thank you very much, Dr. Gilmore.

General O'Reilly?

O'REILLY:

Good morning. Mr. Chairman, Senator McCain, other distinguished members of the committee, it is an honor to testify before you today on the missile defense agency's activities, to continue developing and fielding an integrated, layered ballistic missile defense system to defend the United States, its deployed forces, allies and friends.

Under the oversight and direction of the Department of Defense, missile defense execute board, MDA proposes an $8.4 billion FY 2011 program that is balanced to achieve six policy goals of the ballistic missile defense review's report and the combatant commanders' and the services' missile defense needs stated in the latest US strategic commands prioritized missile defense capabilities list.

First, defense of the homeland against limited attack. We continue to upgrade the ground-based midcourse defense system to increase reliability, survivability, ability to leverage new -- a new generation of missile defense sensors and testing to accredit our simulations. Missile fields in Alaska are in an optimum location to intercept missiles from either North Korea or Iran.

The purchase of five additional ground-based interceptors and the production of components to support extensive reliability testing and missile refurbishment will sustain our production capability until 2016 and critical component manufacturing beyond 2020.

Second, defense against regional threats. By 2015, we plan to buy 436 SM3 1A and 1B interceptors, 431 THAAD interceptors, 14 AN/TPY- 2 radars, nine THAAD batteries and have 38 ballistic missile defense capable ships available. Our regional missile defenses are adaptable to the unique circumstances of each combatant command.

For example, we determined, based on updated intelligence estimates, that our previous plan for the defense of Europe could be rapid overwhelmed, and thus made ineffective, by the large number of Iranian medium-range ballistic missiles today.

O'REILLY:

Additionally, the previous program did not cover most of Southeastern Europe exposed to the ballistic missile threats today, would not have been available until 2017 and was not adaptable to changes in future threats to Europe. Therefore, we plan to deploy a larger number of interceptors in Europe in four phases, as missile threats from the Middle East evolve.

First, two phases in 2011 and 2015, respectively, provide protection against short and medium-range ballistic missiles. The third phase, in 2018, provides protection against intermediate range ballistic missiles. The fourth phase, in 2020, provides capability to intercept intercontinental ballistic missiles from the region in which they are launched.

Third, prove the ballistic missile defense system works. We have submitted a comprehensive, integrated master test plan signed by Dr. Gilmore, to services, operational test agencies and the commander of US strategic command to ensure we fly our missiles before we buy them.

However, the two greatest challenges that we face in developing missile defense is acquiring cost effective, reliable targets and improving quality control of all products. Over the past year, we have initiated a new target acquisition strategy to increase competition, improve quality control, reduce costs and provide back-up targets, starting in 2012.

However, the precision of missile defense systems requires stringent manufacturing standards. Until we complete planned competitions, including the greater use of firm,

fixed price contracts and defect clauses, we will have to motivate some senior industry management through intensive inspections, low award fees, issuing sure (ph) notices, stopping the funding of new contract scope and documenting inadequate quality control performance to influence future contract awards.

Fourth, hedging against uncertainty; in accordance with war fighter priorities, we are focusing our future technologies to develop more accurate and faster tracking sensors on platforms to enable early intercepts, enhanced command and control networks to rapidly fuse sensor data to handle large raid sizes, a more agile version of our SM-3 interceptor to destroy long-range missile, re-entry vehicles, discrimination and the development of high-energy lasers.

Fifth, deploy new fiscally sustainable capabilities over the long term. The Missile Defense Agency is complying with the Weapons System Acquisition Reform Act of last year, by establishing and managing six baselines, costs, schedule, technical, test, contract and operational baselines, increasing service and combatant commander participation and increasing emphasis on competition at all phases of the program's acquisition life cycle. We are reviewing over $37 billion in new contracts for competition over the next two years.

Sixth, expand international missile cooperation. We are currently engaged in missile defense projects, studies and analysis with many countries, including Japan, Poland, the Czech Republic, Israel, Australia, the United Kingdom, Germany, South Korea, NATO, the United Arab Emirates, Bahrain, Saudi Arabia and Kuwait. Additional -- additionally, Poland and Romania have agreed to host our Aegis to shore sites and we cooperatively developed the SM-3 2A interceptor with Japan, in which they invest over USD1 billion.

We also continue to support expert dialogue on cooperative efforts with Russian Federation -- with the Russian Federation, whose location of their surveillance radars would significantly enhance our ability to monitor ballistic missile development and flight testing in Southwest Asia.

Relative to the recently expired START Treaty, the new START Treaty actually reduces constraints on the development of the missile defense program. Unless they have new START accountable first stages, which we do not plan to use, our targets will no longer be subject to START constraints, which previously limited our use of air to surface and waterborne launches of targets, which are essential for the cost effective testing of missile defense interceptors against medium and intermediate range ballistic missile targets in the Pacific area. In addition, under new START, we no longer will be limited to five space launch facilities for launching targets.

The new START treaty also has no constraints on ballistic missile defense system deployment. Article 5, Section 3 of the treaty prohibits the conversion of ICBM or sea-launched ballistic missile launchers to missile defense -- conversion to missile defense launchers and vice versa, while grandfathering five former ICBM silos at the Vandenberg Air Force base, already converted for ground-based interceptors.

MDA never had a plan to convert additional ICBM silos at Vandenberg. Moreover, we've determined that if more interceptors are added to Vandenberg Air Force space, it would be less expensive to build a new GBI missile field, which is not prohibited by the treaty.

Regarding sea-launched ballistic missile launchers, some time ago we examined the concept of launching ballistic missile interceptors from submarines and found it an unattractive and extremely expensive option. As the committee knows, we have a very good and significantly growing capability for sea-based missile defense on Aegis-capable ships.

In conclusion, MDA has teamed with combatant commanders, services, other DOD agencies, academia, industry and international partners to address the challenges of managing, developing, testing and building capabilities to deter the use of ballistic missiles and effectively destroy them once launched.

Thank you, Mr. Chairman. I look forward to answering your questions.

LEVIN:

Thank you very much, General.

Admiral Macy?

MACY:

Thank you, Chairman Levin, Senator McCain, distinguished members of this committee. I appreciate the opportunity to discuss missile defense and the roles and functions of the joint integrated air and missile defense organization with you.

I have submitted written testimony for the committee and I would like to take a few minutes to summarize the key points.

The joint integrated air and missile defense organization is a small group of military and government civilian personnel that supports the chairman of the Joint Chiefs of Staff, the joint staff and the combatant commanders. Our mission is to identify and coordinate joint requirements for air defense, cruise missile defense and ballistic missile defense to support the development of solutions for the war fighter.

Key tasks from my organization include advocating for the warfighters desired air and missile defense capabilities, providing air and missile defense subject matter expertise and advice to the chairman, Joint Chiefs of Staff and to the commander of the United States Strategic Command, facilitating combatant command and service collaborative efforts to identify and develop operational concepts, joint requirements, system interoperability and operational architectures, developing and maintaining an air and missile defense road map and finally assessing and validating integrated air and missile defense capabilities.

Our manning is tailored to provide current operational expertise and air and missile defense and is drawn from across the services. Our staff officers include Air Force E3 AWACS, air battle management specialists, Army, patriot surface-to-air missile officers, Navy, Aegis surface warfare officers and Marine Corps fighter pilots.

The background and experience of these military personnel provide them operational credibility and standing when discussing requirements of the war fighter and enables them to translate operational needs into requirements documents, analysis and study activities

and demonstrations. IT also provides a pool of experts to support the chairman, Joint Chiefs of Staff in the development of policies and programs for the war fighter.

JIAMDO provides the Chairman with direct input and assessment on combatant command air and missile defense needs and options on how to meet those needs.

JIAMDO is very focused on ensuring the department is delivering capabilities that support combatant command operational plans and that address their air and missile defense gaps. We are an important conduit for the combatant commanders to get their air and missile defense needs into the department.

We have liaison personnel at Central Command, European Command, Strategic Command, Joint Forces Command, Pacific Command, Northern Command, NORAD, U.S. Forces Korea and U.S. Forces Japan. We support the U.S. strategic Command in their role as the air and missile defense integrating authority.

JIAMDO applies its extensive air and missile defense expertise, operational analysis capabilities and Pentagon process knowledge to serve as a link between the combatant commands and the joint and service staffs.

JIAMDO has been positioned by the Chairman to be at the intersection of the requirements processes for air defense and ballistic missile defense and to act as an integration mechanism for harmonizing both common and differing needs across multiple services, platforms and systems. Some recent and upcoming activities highlight this.

During the ballistic missile defense review, I was one of the three directors of the review and two of my senior officers served as co-chairs of the programmatic process and execution working groups and requirements teams.

JIAMDO also recently completed a ballistic missile defense inventory analysis, the joint capability mix study, as alluded to by the chairman. This is a U.S. Strategic Command request study to determine the war fighters' requirement for upper tier interceptors. Working with the combatant commands, the services and the Missile Defense Agency, JIAMDO was able to quantify how many interceptors were needed and the effect those in -- those numbers had on war fighting capability.

It is important to emphasize that this was not a unilateral effort by JIAMDO and in fact would not have been possible without the support, input and participation of the Missile Defense Agency and the combatant commands.

With the advent of the phased adaptive approach for missile defense, we are embarking on a new round of analysis to understand the implications of that decision on our needs for sensors, weapons and systems.

The PAA concept will affect each combatant commander differently and each will have their own requirements for accomplishing their ballistic missile defense responsibilities. In order to integrate these needs, we're taking a new round of analysis, the joint capability MIX 3 study. This is in its initial stages and we are targeting completion for about this time next year.

Finally, as the director of JIAMDO, I am the U.S. representative to the NATO Air Defense Committee and I'm responsible for addressing air and missile defense related issues in NATO and for drafting and coordinating U.S. positions. In this role, I have

recently had the privilege of working with the NATO staff and member countries to discuss the application of the phased adaptive approach in Europe and the potential for regional missile defense capability in a NATO context.

I should also note that I had the opportunity to observe, yesterday, when the North Atlantic council was briefed on the phased adaptive approach in Europe, by the vice chairman, Joint Chiefs of Staff, General Cartwright.

In conclusion, developing the right capability for the war fighter is a challenging task. JIAMDO is the unique organization, positioned and manned to meet this challenge and to support joint and coalition air and missile defense.

Thank you for your time and I look forward to answering your questions.

LEVIN:

Admiral, thank you very much.

Let's have an eight-minute first round.

Secretary Miller, you outlined the four phases of -- over the next decade for the phased adaptive approach, so I'm not going to go into that in more detail.

But I am going to be asking you, General O'Reilly, to go through some of the reasons why the military -- or military uniformly supported it. I'm going to just tell you what I understand the advantages of the new system are and then see if you agree.

You outlined some of them, but I don't think it was a comprehensive as it could be, so let me go through them.

First, does the new plan, the phased adaptive approach, provide protection five years sooner than the old plan? In other words, is the -- the old plan would have been deployed about 2017, I understand, while the new system would be deployed starting in 2011. Is that true?

O'REILLY:

Yes, Senator, we'd estimate five to six years earlier.

LEVIN:

OK. Doctor, you can chime in. If either of you have a difference of answer on this, let me know.

Secondly, it protects -- the new plan protects the most vulnerable areas. First, the old system would not have provided any protection for Southeastern NATO Europe, the portions that are currently within range of Iranian missiles. The new plan starts by protecting the areas that are currently within range of existing Iranian missiles. Is that true?

MILLER:

That's correct.

LEVIN:

OK.

Third, the new plan protects all of NATO Europe by 2018, will provide additional protection to the United States with phase four in the 2020 time frame? Unlike the old system, which never would have covered more than 70 percent to 75 percent of NATO Europe. Is that true?

MILLER:

That's right. Yes, sir.

LEVIN:

General.

Fourth, the old plan with ten interceptors in Poland would have been -- or could have been overwhelmed with just five Iranian missiles or more. The new system, with many SM-3 interceptors at sea and on land and the potential for adding more with a naval surge could handle many, many, many more Iranian missiles of all ranges.

MILLER:

Yes, sir. That's correct.

LEVIN:

General?

O'REILLY:

Yes, sir.

LEVIN:

Next, the old system only defended against longer-range Iranian missile threats, which Iran does not yet have. The new system starts with capability against existing threats, but then adds capability against future threats. Is that true, Doctor?

MILLER:

Yes, sir.

LEVIN:

General?

O'REILLY:

Sir, the old system could be used to defend against medium-range ballistic missiles and that was part of our concern. It was a mismatch of our capability versus that medium-range threat.

MILLER:

So the -- excuse me, just the amplify on the General's statement, the distinction between short and medium range, the old system would not have covered the shorter range system of 500 kilometers or 1,000 kilometers or under?

O'REILLY:

Yes.

LEVIN:

OK. So in that regard, that's also a plus, the adaptive system is plus in that regard as well?

O'REILLY:

Yes, sir.

LEVIN:

OK.

Dr. Miller, you agree? You're shaking your head?

MILLER:

Yes. Yes, sir.

LEVIN:

Finally, the old system was a fixed site system that could not be moved to adapt to a changing threat. The new system is inherently flexible and adaptable. The Aegis BNB (ph)

ships can move quickly. The land-based SM-3 sites could be relocated within about four months if a changed threat warranted it. Is that correct?

MILLER:

Yes, sir.

O'REILLY:

Yes, sir.

LEVIN:

Now the baselines, General, you talked about, I think, six baselines for acquisition, including cost schedule, performance testing. One of the issues here, which Senator McCain raised, has to do with some of the problems that we have because of the cost-plus contracts that have been given in this area and some of the losses that we've suffered as a result of not being able to go after a contractor for defects.

He listed one of the major defects, which has been clear.

Is it your goal, and you mentioned, I think, General, that you used a figure, $37 billion, you're looking through that number, potential contract awards to see where competition can be more greatly -- more -- used more often. That, of course, is one way to keep costs down, but in terms of defects, we're going to need to have guarantees -- some kind of warranties against defects, it seems to me.

I mean, right now, we've lost tens of millions of dollars, more than that, hundreds of millions of dollars, based on small defects, which means that systems were presented to us that did not do the job that they were supposed to do.

I'm just wondering whether or not, in addition to looking for greater opportunities for competition, to reduce the costs, whether you're also going to be looking for a system, which is not as much based on cost plus, but is based on warranties and defects that would have to be paid for by the contractors.

O'REILLY:

Yes, sir. As I review the acquisition strategy for the value of $37 billion of contracts in the next two years, that is one of the criteria that I review for, is where can we apply both fixed price contracts, which puts the penalty of not delivering a fully operational, functional end-item on the producer. Not only that, but also look for defect clauses.

The problem that I have right now is with a lot of these contracts on the developmental side, there was an intent for the government and industry to share risk, but that risk we were talking about was developmental risk and risk of technology in new manufacturing processes.

Unfortunately, that cost plus coverage to handle those risks limits our ability to enforce the fact, when defects are -- occur and the contractor is still not liable for those defects because of the way the contracts were constructed.

So, yes, sir, we are reviewing the actual construct of each one of those contracts.

LEVIN:

That's very important to us. We just have a reform acquisition law, which is committee initiated and promoted and it was signed by the president and I understand sharing risks in the developmental stage. I mean, that is clear. I mean, you're not going to get too many contractors who are going to be willing to take the risk of a new system, which is under development.

That's very different, however, from producing something with a defect in it, which is not supposed to be there. So it's a manufacturing defect. Something's left out, which is supposed to be there. Something's put in the wrong place. That's not supposed to be a shared risk.

That's a failure of manufacturing, of -- and I'm glad, and I know that Senator McCain, as he raised this point very strongly and he feels very strongly and I think all the members do of this committee because we've been so actively involved in the reform effort here in terms of acquisition, that your determination in this area is very important to us.

I know that, Dr. Gilmore, you've got some skin in that game as well. I'm sure that this effort that has been described, and I think was part of your testimony, is also good news for you as well. Is that accurate?

GILMORE:

That's correct. I mean, the pace of testing now is largely lagging because -- or not lagging, but limited by the availability of targets. So the sooner that we can get reliable targets, the more testing can be done.

LEVIN:

Dr. Miller, do you want to add anything to the -- that issue in terms of cost plus versus fixed price and getting guarantees, warranties, against defective manufacturing?

MILLER:

Senator, I'll just say that I agree with the statements of both General O'Reilly and Dr. Gilmore.

LEVIN:

All right. Thank you. My time is up. I guess Senator Inhofe is the (inaudible).

INHOFE:

Thank you, Mr. Chairman.

Let me -- I'm going to cover three things pretty quick here. First of all, the chairman spent a long time talking about the old system, the new system and we're talking about the third site in Poland, which is one that I very strongly supported during that time.

So do you agree, initially, that we're talking about having that capability of knocking down an ICBM from the Iran in the third site by -- originally by 2013? That split, probably, it's about 2015? Am I generally right there?

O'REILLY:

Sir, originally it was and --.

INHOFE:

Actually, originally, I think it was 2012, but then it started slipping.

O'REILLY:

Yes, sir. In the requirements for ratification of the treaties, before we could begin work to build the missile field is 5.5 years, another year and a half to integrate it and complete the operational certification by the combatant command in Europe. So it was 2017, we reach the point before we can have the first operational site.

INHOFE:

Okay. Now I disagree with that and there is -- I will submit for the record evidence that would have been 2015. It's not that big a deal, but that's an opinion that I'm expressing.

The second thing I want to get out is on this treaty, how it does affect our ability to protect America, our national defense system.

Dr. Miller, I looked in your written testimony after you made a statement and I couldn't find it, but you said something to the effect that the restriction by Russia, there is no restriction by Russia in terms of our ability for a national missile defense system. And I did find, however, in General O'Reilly's statement it says the new START Treaty has no constraints on current and future components of the BMG's (ph) development or deployment.

Let me just suggest to you that I -- there are a lot of people who disagree with that. I mean, how do you respond, very, very briefly, and just take one of you, perhaps General O'Reilly, you'd be the right one. When you have the Russian defense minister, Sergey Lavrov (sic - foreign minister), who stated that linkage to missile defense is clearly spelled out in the accord and legally binding. And the Russians will have the right to exit the

accord if the U.S. is building up a missile defense strategy?

I also have, actually from, this is from the statement that was given, the unilateral statement by Russia, where they say the same thing, that, yes, we are -- we do have that restriction in the United States and it is legally binding.

Any response to that?

O'REILLY:

Sir, the Department of Defense general counsel and the State Department and the National Security Council general counsel have all advised me that it is not legally binding.

INHOFE:

So that's -- we're saying it's not legally binding, although the Russians say it is legally binding.

Does that bother you?

O'REILLY:

No, sir.

INHOFE:

That bothers me.

The --.

GILMORE:

Sir, if I could add briefly, the -- it's clear that the Russian unilateral statement is not unilaterally binding, but it's also clear that they have the right to withdraw from the treaty once ratified and implemented, should they see it in the national security interest.

We don't see -- we don't expect that to be the case. I would also note that the Russians have made a similar statement with respect to the START Treaty and concerns about (inaudible).

INHOFE:

Yes, I know that.

GILMORE:

Development. The US then withdrew from the APM treaty. The Russians stayed in the START Treaty at that time.

We can expect them to make decisions that are based on their national interests.

INHOFE:

The third thing that I want to get into the record, and there's not going to be a lot of time to do all of this, would be our -- the issue that comes out as to when Iran is going to have the capability.

What has bothered me, and we spent a long time looking at this, we know that we have ground-based interceptors in California. We know we have them in Alaska. We've seen the maps showing the footprint that, yes it does reach the east coast of the United States, barely. A lot of people have said, well, that's assuming we're lucky with one shot and then there's a percentage that's attached to that.

So I think the previous administration, in talking about the third site, felt the same as I do. That is not a comfort level that I feel that I am enjoying.

Now when do you think -- would anyone like to volunteer as to when you think that the Iranians are going to have the capability of sending an ICBM to the continental United States?

O'REILLY:

Sir, that's an inherently uncertain question. The current estimates, that's included in the recent unclassified reports submitted by DOD say that it could potentially be as soon as 2015.

INHOFE:

Okay. I agree with that. That's the first thing that we agree on. That being 2015, and the capability, as I look at this, and we've been talking about the old system and the new system.

I'm familiar with the SM-3 Block IA, what its capabilities are, that's 2010, that's now. The Block IB, 2015. Block 2 Alpha, that would be 2018, but really to have the capability of a ground-based system that would have been, in this case, in Poland, at one time we were talking about doing that in Florida, and decided that we wanted to have something that would also be defensive for Western Europe. I agreed with that at the time.

But to get to that, you've got to have an SM-3 Block 2B, Bravo. Does anyone want to venture a guess as to when that 2 Bravo would be effective?

O'REILLY:

Sir, we --.

INHOFE:

Deployable?

O'REILLY:

Sir, we estimate that for 2020. If I could briefly add, the current deployment -- the current planned deployment for the phased adaptive approach includes the placement of a forward-based radar in Europe in the 2011 time frame. That radar will not only help the defense of Europe. It will also help the defense of the United States and was indeed the most important contribution of the previous architecture.

That's a common element from the past architecture. We moved it forward from what we estimated to be 2017 deployment to a 2011 deployment to provide that capability for improved national missile defenses earlier.

INHOFE:

Well, it's my understanding that this 2020 date on the phase four is one. Do you all stand behind that date? Because I don't. I've read a lot of things to the contrary, that there's not any level of certainty to that, does anyone feel very confident.

O'REILLY:

Yes, sir.

I've developed four missile systems. This is very feasible. We use very conservative time lines. We've looked at the technology. I've had two independent estimates. I've asked the defense science board and the secretary of defense has supported me and an independent assessment of that this year have verified --.

INHOFE:

I want you to send me something that would -- that is convincing, that we would have that by 2020.

Now even if that's true, and I -- which I question that. I do want to see what you have and I want to give you the benefit of that doubt, General, but even if that's true, we still have that time frame between 2015 and 2020 that is very disturbing to me.

This whole idea on the estimates that we have had in the past is a great deal of concern. You've heard me say this before, because I was there in 1998, in August of '98, when we asked the question, when will North Korea have the multiple stage capability? At that time, the intelligent estimate, and it came out of the White House also, somewhere between five and ten years. That was the 24th of August of 1998. Seven days later, the 31st of August, they fired one.

So I'm not -- I'd rather err on the side that our -- that we are -- I'd rather be

conservative in our estimates. All these things, when I look at them, I have to at least express the opinion of one member of this panel, who's very much disturbed over what could happen to the United States with this change in policy.

Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator Inhofe. Senator Lieberman.

LIEBERMAN:

Thanks, Mr. Chairman.

Let me first thank all of you for the extraordinary work that you've done. I've said this before, in previous years, but it's not so long ago that there were a lot of people around here and elsewhere who thought that the whole idea of a ballistic missile defense was really a pie in the sky, no pun intended. I mean, it just was a ridiculous waste of money. I remember people saying, how are you ever going to have a bullet that could hit another bullet?

Well, you all have done it. It's a remarkable technological and management breakthrough and I just don't think we can thank you enough for it because it has direct relevance to the security of the American people.

My God, you've actually all even done a successful test to the airborne laser, General O'Reilly. That was thought to be the biggest mind trip and waste of money. Yet it holds tremendous potential for giving us the number of capabilities, including hitting missiles on the launch phase, which is probably the best time we'd want to hit them. So I -- the first thing I wanted to do is thank you for the work you're doing.

Secondly, last year, in this committee, we had a really vigorous debate, in light of what many of us thought were excessive cuts in the Missile Defense Agency's budget. I'm really glad that the president has proposed, in the budget for the coming fiscal year, restoring well over $500 million in funding to the Missile Defense Agency. I think that's a very constructive step forward.

I want to get into some of the discussion that both Senator Levin and Senator Inhofe had about the phased adaptive approach and ground -- two-stage ground interceptor. If it's possible, I find myself agreeing with what Senator -- Chairman Levin has argued are the positive results of the phased adaptive approach in terms of the defense of Europe and the Middle East, our NATO allies and our allies in the Middle East, in terms of short and medium-range missiles, which Iran has now.

But I also agree with Senator Inhofe and I share his concerns about what we lost when we stopped the change from so-called old to the new approach in terms of the ground-based interceptor. Just I want to do it quickly because I think he did it.

Look, last week, General Burgess, the head of the defense intelligence agency, was before this committee and echoing or paralleling what you said, Dr. Miller. He told us that their estimate was that Iran could have an intercontinental ballistic missile that could hit

the United States by 2015, with foreign assistance.

When we pressed him on that he said he was thinking about North Korea. And of course, it's quite plausible that North Korea would give Iran -- would sell Iran such foreign assistance.

And the problem here is that the two-step ground based interceptor was supposed to be done 2015, maybe 2017 as time went on. It's pretty clear it was in the exchange between Senator Inhofe and yourself that the SM-3 phase IIB that will be capable of hitting a missile fired from Iran to the United States won't be ready until 2020 at best.

So there is a -- there is a gap there. It's not a total vulnerability, because of course we have the missiles in California and Alaska, if God forbid the Iranian missile came over.

But I -- what I want to pursue in this regard, General O'Reilly, I was pleased that the ballistic missile defense review describes the administration's commitment to, and I quote, "continued development and assessment of the two-stage ground based interceptor" end quote, as a hedge against the risks that either a threat to the American homeland will develop sooner than expected, or the SM-3 program will run into currently unanticipated technical challenges.

And -- and I think that's a -- that's a very important statement to make. Because I think as you would, I'm -- I would guess agree the two-stage ground based interceptor was a -- a very good program moving in the right direction.

But here's -- here's my concern. In your testimony, you highlighted the upcoming two tests for the two-stage GBI as laid out in MDAs integrated master test plan. But if I'm reading things correctly, I'm concerned that although that pair of tests is scheduled through 2012, no other tests are planned until 2016.

And so, quite directly, I'm asking, how can the two-stage ground based interceptors serve as an adequate hedge in the way that I described for defense of the homeland shoot -- look-shoot (ph) -- shoot from Europe if we miss, look -- California last to pick it up.

How can the two-stage GBI serve as an adequate hedge if it will -- if it will not be sufficiently tested until later in -- in the decade?

O'REILLY:

Sir, first of all the two-stage GBI has the same components as the three-stage, except the third stage is removed, and we have an adaptor in there. The actual appearance of them, the length, everything, is identical.

We will test the two-stage GBI in June, and that will verify any differences between the two-stage and the three-stage. The important part of this interceptor is the kill vehicle itself. And the kill vehicle is identical between the two and three-stage.

So, our choice of when we were testing the two-stage was basically driven on what type of environments we wanted to test the kill vehicle in, because we believe after this test in June, we will have satisfied any differences between a two and three-stage.

And literally at that point on, the performance of a two-stage is directly correlated

and identical to the performance of a three-stage, because the front end, after the first few minutes of flight, is identical between the two.

LIEBERMAN:

So you're saying that the -- the program to develop the SM-3 systems will also facilitate or bring about the realization of the two-stage ground based interceptor as a hedge?

O'REILLY:

Well the -- the two-stage as we said in June, we believe will verify any distinctive differences. And at that point, it'll be a very mature missile, because of the part that's so key, that the development of the SM-3 IIB is a separate independent activity.

If we did have a problem with that, another way of achieving a hedge against a launch from...

LIEBERMAN:

Right...

O'REILLY:

...either North Korea or Iran is to have another shot opportunity from our current missile fields. And that's what a two- stage would provide you.

LIEBERMAN:

... current missile fields...

O'REILLY:

In Alaska...

LIEBERMAN:

... in Alaska or -- yes, I'm -- I'm -- I wanted to get to that. Now let me just come back to the -- to the strategy of this.

I assume that you would agree that the sooner we can have the capability to shoot, look and shoot, that a shoot at an Iranian or North Korean missile, but Iranian particularly from Europe. And then look and see if hit it, and if we don't shoot again from California and Alaska.

The sooner we have that capability, the better.

O'REILLY:

Yes, sir.

LIEBERMAN:

And --.

MILLER:

Could I briefly --?

LIEBERMAN:

Yes, go ahead, Mr. Miller. I'd invite you into the conversation.

MILLER:

Thank you very much. I -- I -- I just want to add that, if we -- if we were 100 percent sure that a GBI interceptor would work effectively against this Iranian threat, we wouldn't have been talking about the possibility of a third site. So you're right that the idea of multiple shots is an important element.

LIEBERMAN:

Right.

MILLER:

What the -- what the SM-3 IIB provides is a different phenomenology. Because it has, and it will have, a set phase intercept.

If there's a problem with the sensor of the GBI, which is common to both the two-stage and three-stage, the SM-3 IIB will provide a different way to get after those -- that -- that future threat that's independent and in our view, a much greater contribution to the overall defense of the United States against that threat.

LIEBERMAN:

OK. I -- I think we're -- you're going to increasingly be asked about the potential gap here between one, Iran has an ICBM and when we have the -- the shoot-look -- the two opportunities here.

So I -- I urge you to please be as direct as you need to be with us about what you need financially to really develop the two-stage ground based interceptor as a hedge.

Including as you said, General O'Reilly, the potential for basing some of those two-stage GBIs in the U.S. for defense of our homeland.

I thank you. My time's up.

Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator Lieberman.

Senator Thune?

THUNE:

Thank you, Mr. Chairman. Thank you, gentlemen for your -- for your service and for all your work on these important subjects.

I want to come back, if I can, briefly to -- to some questions that Senator Inhofe had asked with regard to the -- the START Treaty. And I'm concerned that the -- the administration may not fully implement its phased adaptive plans for missile defense in Europe, or that it may seek to -- to slow down that implementation to avoid Russian withdrawal from the new START Treaty.

And I guess my question has to do with, what types of missile defense activities will the administration avoid to diminish the chances that the Russians will withdraw from the new START Treaty?

MILLER:

Senator Thune, this administration has attempted to make as clear as possible in the defense review and in other statements, that it will do everything necessary to defend the United States homeland, our troops overseas, and to work with our allies and partners to -- to defend them as well, full stop.

THUNE:

I think the thing -- the -- the challenge that you face and that -- because -- and I know -- I know your argument has been that these unilateral agreements, either side can walk away from this thing. But there's certainly an implication that the Russians, I think, believe that this is more -- or there's more to this than -- than what we're being led to believe.

And -- and I think it's an important element as we look at this treaty. Because missile defense plays so heavily in the defense, not only of the United States, but -- but our allies.

And so, that's something I -- my guess is we'll continue to pursue.

MILLER:

Sir, could I add just a -- a brief note on the mathematics here?

Currently, we have 30 GBIs. As you know, by the end of -- of this fiscal year, that would be deployed.

But even with the potential growth in that, consider the difference in that scale relative to the 1,550 warheads that are allowed under the new START Treaty. Whatever the concerns that the -- the Russian federation may have about the future of U.S. missile defense, the scale of the -- of the defensive capabilities that we have is nowhere near the potential of -- of affecting the stability of the -- of the -- of the strategic deterrence relationship.

THUNE:

I appreciate that. I think sometimes too though, that they -- they're -- it's a -- it gives them a -- an out, a convenient out, an -- an -- an excuse at some point in the future.

But, let me ask you, Secretary Miller, if I might to -- there's a 2007 -- in 2007, I should say, the director of national intelligence assessed, and I want to quote for you what they said here.

"The individual Russian entities continue to provide assistance to Iran's ballistic missile programs. We judge that Russian entity assistance, along with assistance from entities in China and North Korea, has helped Iran move towards self-sufficiency in the production of ballistic missiles. The Russian government has taken steps to improve controls on ballistic missile technology and its record of enforcement, though still mixed, has improved over the decade" end quote.

The question is what level of assistance do you see from Russia today in helping Iran develop its ballistic missile capabilities or capacities?

MILLER:

Sir, I believe that that 2000 assessment still stands. But I'd like to take that question for the record and -- and provide a detailed response if I could?

THUNE:

Go ahead.

On -- and this is a follow up to that one. So you know, if you want maybe take this one for the record too, but Thursday, April 15th, there was a "Washington Times" newspaper article that reported that the CIAs Weapons, Intelligence, Non-proliferation and Arms Control Center (ph) this year, linked Chinese companies to missile programs in Iran.

Do your missile defense plans take into account longstanding and possibly present day cooperation and support by Russia and China for Iran's ballistic missile program?

MILLER:

Sir, yes, they do. And we can -- I will provide more details with respect to the Chinese side of that equation as well for the record.

THUNE:

OK. Thank you.

This I would direct to -- to you, Secretary Miller, as well as to -- to General O'Reilly.

As part of the phased adaptive approach to -- to the European missile defense, my understanding is the administration is now seeking to establish and -- and this is a -- I think cover a little bit the ground based SM-3 missile defense site in Romania by the year 2015.

What countries do you envision that will be protected by that site? How do you envision that the command and control process will work? And, what policies and procedures would likely be at work in the event that a launch would be detected?

MILLER:

The -- the -- the capabilities of the phased adaptive approach in terms of coverage of Europe will grow over time. By the -- by the time of Phase III, which is 2018, and we'll -- we'll have complete coverage of Europe, and that will be a combined contribution of the -- of the site, in Romania, the site in Poland and any additional sea-based sites as well.

With respect to command and control, and this is a conversation that -- that we are having now with -- with our -- with our NATO allies. And, we expect that the command and control for the phased adaptive approach was intended to be the U.S. contribution to NATO missile defense, would be through -- through the European Command.

And then we are having discussions with our European allies with respect to NATO Command and control arrangements.

There's an important program there called, ALT TMD (ph). A NATO program that's -- that's currently funded for study and that provides the command and control architecture to integrate countries' contributions to missile defense as well.

I think General O'Reilly will probably want to add something, perhaps, Admiral Macy as well.

O'REILLY:

Sir, the -- the ALT TMD (ph) program is focused on a lower tier. And as we've said, the most effective missile defense has both an upper and a lower tier. So you have multiple shot opportunities using different systems.

And they are reviewing, going through studies as we speak, in order to determine

what their contribution would be from a lower tier, and then how to integrate it with our systems that we're proposing.

This obviously will need the decision made by -- at the -- the Lisbon Summit later this year, and with NATO to determine whether or not territorial defense in Europe is going to be a policy and a -- a priority for them. If it is, the ALT TMD (ph) system then would readily be available to integrate with the phased adaptive approach.

THUNE:

I want to ask one question that was raised. As Senator Lieberman alluded to it earlier, but on February 11th of this year, and this would be, I guess, General O'Reilly, Secretaries Gilmore, Miller, whomever would like to -- to respond to this.

But the Missile Defense Agency completed a -- a successful destruction of the threat representative missile in its boost phase using the high energy laser beam from the airborne laser aircraft, which I think is a pretty remarkable accomplishment and -- and in my view, could lead to a -- a revolution in military affairs.

And I'm interested in knowing what your views are regarding the successful test of the airborne laser program. Do you think it marks the beginning of a -- of a sort of a revolution. And -- and what are your views about this program as we move forward? And how should we be leveraging the new technology that it represents?

MILLER:

I'll speak very briefly and then ask my colleagues to come in. The test represented an -- an important milestone in showing that directed energy technologies can play an important role in the future in -- in missile defense.

As -- as -- as the secretary of defense had noted in -- in the decision to terminate the program of just about a year ago, the concern was not about the -- the technological capabilities of -- of the system, but about the operational concept for applying it, and the reality that would have to be large numbers of aircraft relatively close to the threat.

And there were serious concerns about the survivability of that -- of that platform. And -- and -- and the lack of a concept of operations that -- that would make it effective. And -- and -- and in actual warfighting scenario.

O'REILLY:

Sir, that intercept of the, and destruction of the missile a few seconds after lift-off on 11 February, demonstrated many scientific breakthroughs. There was a -- a -- a hierarchy of first time accomplishments and it went a long way with moving us from theory to empirical data that we're collecting on these systems.

That design was largely designed during the '90s that you saw in that platform. The platform demonstrated the beam control and the ability to propagate in the earth's atmosphere.

Since then, we have also been developing other technologies which produce more power in smaller packages. And our budget requests continue development of those, so that we are readily available, or we have a platform readily available in order to take these newer technologies and gain the standoff distances that we've been referring to that make them very operationally capable.

THUNE:

And I appreciate the -- the -- the doubts that have been expressed by some about the -- the, you know, the concept of operations and in actual conflict.

But, there are others who I think have great confidence in the aircraft. And it seems to me at least, that these directed energy type weapons have great potential to transform the -- you know, our future deterrents capability.

And so, I -- I hope that we can continue to dialogue about how to -- to use those technologies as we go forward.

O'REILLY:

Yes, sir.

THUNE:

Thank you. Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator Thune.

Senator Ben Nelson?

BEN NELSON:

Thank you, Mr. Chairman. And let me thank you, gentlemen, for your service as well. I want to go a little more into the phased adaptive approach.

In his testimony before this committee last month, General Chilton, you think that STRATCOM talked about STRATCOM being the quote, "lead combatant command for missile defense advocacy." And indicated he was working to shape missile defense investments that both, provide more effective capabilities to our geographic combatant commanders.

This goes to you, Admiral Macy. Have geographic combatant commanders requested increased regional missile defense capabilities?

MACY:

Yes, sir, they have. If by increased, you mean additional assets.

Following the generation of the phased adaptive approach and the concept of having different abilities which could be tailored to regional needs, all of the combatant commanders with current significant issues in missile defense have been looking specifically at the phased adaptive approach, and how to adapt it to their region.

I should take the opportunity that the phased adaptive approach is not a system, but a concept of how you provide regional missile defense. The systems, if you will, are the toolkit, provided by General O'Reilly, which includes your interceptors and sensor packages in command and control.

There are differences in the regions between the Pacific, the Central Region, and the European region of politics, of threat, of geography, of both technical and operational issues. So each of the combatant commanders are looking at that, have come forward with their initial estimates, and we are in the process now within the joint staff and with STRATCOM, of looking at how to balance those assets and to meet their needs in the different regions.

BEN NELSON:

Well, there are obviously going to be different needs depending on the location of the combatant commander. And so, you're -- you're requesting for -- for their input to determine how best to meet those -- those needs, because there may be multiple needs. And, there may be -- may be some overlay of needs depending on the geographic location.

MACY:

Yes, sir. We have two primary means in which we can ascertain and address the COCOMs needs.

The first is, if you will, through their systemic and technical capability desires which are expressed in the PCL, the prioritized capabilities list, for missile defense, which has inputs from all of the COCOMs and is collated and signed forward by General Chilton to General O'Reilly as what he sees as the need for General O'Reilly to provide.

Separately on the operational end, we have, as we do for all our forces, a global force management process with a series of steps and boards that need to figure out how to divvy up, if you will, all of our assets around the globe.

We have over the last six months been engaged in an effort to understand how to put the missile defense issues into that same process. The process works, the trick here, if you will, is getting the business rules for missile defense to provide to the global force managers.

That is coming to a conclusion here in the next few months. And incorporates those things such as I mentioned, that the combatant commanders have been looking at, what would be the lay down for PAA (ph) in their area?

BEN NELSON:

Different warheads, different delivery systems, different capabilities, different needs, but coordination of them and the integration of -- of that total arsenal. Is that what -- what we're attempting to do here?

MACY:

Yes, sir, exactly that. That the -- the, if you will, the toolkit of interceptors is fixed with the different types as sensors, and how you apply those in the different regions.

And the other is recognizing that right now, we don't have enough. So how do you prioritize and how do you manage the risk between regions, which is what we do on a daily basis with all of our forces, whether it's armor or ships or bombers or whatever. But the same thing applies to missile defense. Yes, sir.

BEN NELSON:

Thank you. And Secretary Miller, do you support the phased adaptive approach for missile defense in Europe? And -- and is this a -- a template for regional missile defense in let's say the Middle East or for Asia as well?

MILLER:

Yes, sir, I do. And it is as -- as Admiral Macy noted, the -- the substantiation will be different in each region. And we're working with our partners and allies to define those various architectures at this time, and also to do our own internal analysis of what makes most sense.

BEN NELSON:

And Secretary Miller, you heard the questions regarding the unique unilateral statements regarding the implications of -- of our missile defense programs on the new START agreement.

Is this a tears and taint situation where they're saying one thing, and we're saying another thing? And -- because unilateral statements that are contradictory are problematic in and of themselves.

The question is what's the impact of the differences in understanding, or different agreement about what the -- the -- treaty says?

And now -- so my question truly is if -- if Russia decides to get out in the future, at some point is that a problem? And part of that question is will we have achieved sufficient results at being in the treaty for -- for having gotten into the treaty in the first place?

In other words, what is the impact if we -- if we end up in the situation where we part ways on -- on the treaty? Either we decide it's not in our national interests, or they decide it's not in their -- in their national interests.

What are the implications, positive and negative?

MILLER:

Senator Nelson, let me say at the outset that I do not expect that that is a -- a likely outcome at all. This treaty is in the national security interest of both the United States and -- and the Russian Federation.

And that is true taking account of -- of the -- the verification provisions in the treaty, of the reduction of -- of delivery vehicles and warheads, and of the data exchanges and other steps that will take place to make -- to -- to make it so that both sides have a better understanding of each other's -- each other's capabilities...

BEN NELSON:

So that's the essence of the treaty from -- from the standpoint of -- of Russia and from the standpoint of the United States.

Are they just stating their own -- for their own political purposes back home about the missile defense system, or do they truly believe that -- that they have some control or some limitation on what we do with missile defense, recognizing that the consequence if they get out, they disagree?

MILLER:

Senator Nelson, I -- I think that the history of our discussions and of the -- the choices of this administration and the past administration make it clear that we will continue to invest in missile defenses and deploy missile defenses in order to protect the homeland and to protect our forces overseas and our allies and partners.

The -- the -- we've also made clear in -- in the missile defense review and the ballistic missile defense review that it is not our intention to change the strategic balance with respect to Russia.

And the relatively small numbers of interceptors that we have today, and the relatively small numbers we would have even if we increased that, compared to the 1,550 accountable strategic nuclear warheads under the new START Treaty, make it clear to me, at least, that we are a very long distance away from having any -- having our defenses have any impact on strategic stability.

We would like to continue discussions with Russia on missile defense cooperation. As Senator Levin noted, we believe we have a common interest in that area and would like to go forward from the current work on a common threat assessment to looking -- to include their -- their radar, one in Armavir and potentially other elements in to help improve our phased adaptive approach in Europe.

We think we have a lot of common interests, both in moving forward in missile defense and in reducing our nuclear weapons.

BEN NELSON:

Well, I -- I -- I agree with you. And this afternoon I'll be discussing that area of cooperation between Russia and the United States with the -- with Senator Mironov (ph) who is the -- the chairman of the Russian Federation Council's -- the equivalent of their foreign relations committee.

There are areas where I think cooperation are possible. It appears that -- that both sides are posturing to keep open their own position with respect to national defense.

And it's not necessarily the threat of a divorce before the prenuptial agreement is entered into. Is that fair?

MILLER:

Yes, sir. I'd go further to say, I expect throughout the duration of the treaty, it's a seven-year implementation period. And it would be a ten-year period of implementation with the possibility of a five-year extension.

And within that period, and I believe further, it would be -- it's in the interests of the United States and Russia to continue to reduce our nuclear weapons and to exchange information and to conduct the type of verification that we will under the new START Treaty.

BEN NELSON:

So even if one side or the other decides -- decides to get out, there's still value getting into the -- into the agreement?

MILLER:

Yes, sir. As I said, I don't expect that that would be an outcome.

BEN NELSON:

I understand (ph).

Thank you. Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator Nelson.

Senator Wicker?

WICKER:

Thank you very much. Admiral Macy, let me begin with you.

And -- and ask you to explore with us the -- the effect this phased adaptive approach will have on Aegis shipbuilding and deployment. And perhaps others will want to contribute to -- to this discussion.

There are worries that valuable Aegis ships might be locked into the BMD mission. As you know, these ships carry out a wide range of other warfighting tasks, and are very much in -- in high demand.

Was there collaboration between the Navy and the other agencies represented at the table on -- on the creation of this plan? And does the Navy shipbuilding plan take into account the -- the increased need for BMD capable ships under this approach?

MACY:

Senator, thank you. To answer a couple of different pieces here, yes, we have participation during the discussions last year and this year as part of the BMDR, the ballistic missile defense review, which engendered the concept of the phased adaptive approach as part of our analysis, with the other services and with the COCOMs.

We are certainly conscious of the impact of that on Aegis shipbuilding and ship tasking.

I can't tell you right now that there's a plan to increase the shipbuilding as a result strictly of this tasking, because partly for the reason that you noted, that these are multi-mission ships. And, they will be doing very many different missions at different times.

As I -- I mentioned earlier in my discussion with Senator Nelson, that is part of the global force management process, which is where you send ships and what you use them for. We do not anticipate at this time, nor have we to date, taken a ship and permanently assigned it to doing nothing but missile defense, whether it was part of the efforts, as you know, that we have in the 7th Fleet with potential risks from North Korea, or in other parts of the world.

I will note that in an earlier time in my life, I served on a Tomahawk capable ship. And, we performed a number of different missions.

From time-to-time, depending on the needs of that combatant commander, we would be assigned to be the Tomahawk shooter. In which case, we were geographically constrained with a certain area to be prepared to launch on a moment's notice.

That certainly could be a possibility in the future depending on a BMD risk. But that doesn't mean that that is all that ship would every do.

And part of you -- what you do in global force management on an annual basis, what you do in operational management command and control on a day-to-day and a week-to-week basis, is to move your assets around.

Now, do we need more? Aegis BMD capability, which is not necessarily the same thing as more Aegis BMD ships, because we are looking to convert certain numbers of our current Aegis BMD ships to BMD -- excuse me, our Aegis ships to BMD capability.

WICKER:

How many?

MACY:

I believe where it's a total of 38 across the set (ph). I'd have to defer to General O'Reilly for the specific number.

O'REILLY:

Yes, it will be 38 by 2015.

WICKER:

And, how long ago was that decision made? Was it -- did that decision predate the decision to move toward this phased approach?

MACY:

I would say it was done in consonants (ph) with it, and the discussions over the last year to two years, over, as we developed this idea that the PAA did not spring full blown on a day. And there's a lot of discussions looking at that.

We looked at the senator -- excuse, the chairman alluded earlier to the joint capabilities mix study...

WICKER:

When was -- when was the -- I hate to interject, but...

MACY:

Yes, sir.

WICKER:

... when was the PAA announced?

MACY:

PAA was announced on September 17th.

O'REILLY:

Sir...

MACY:

... of last year.

WICKER:

Of 2009.

MACY:

Yes, sir.

WICKER:

And the decision with regard to the number of ships predated that?

O'REILLY:

Sir, last year's budget request was for 27 ships by the end of this time. And, we have increased that, working with the Navy, 11 more since the PAA has been decided.

WICKER:

Largely as a result of the PAA?

MACY:

No sir. A combination, the original...

WICKER:

General O'Reilly says yes, and Admiral Macy...

MACY:

I would commit, sir, that it was in the original increase up to 27 was as a result partly of the studies we had done saying that we need more. And then when the PAA came in to being, the general was asked what more will it take. And that resulted in a further increase in the number of ships.

WICKER:

Well, for the two of you at that end of the table, are you telling the Senate that -- that under the present plan, we're going to have enough Aegis ships to -- to carry out this new phased approach and all the other missions that are going to be required? Be comfortable with that number.

MACY:

Based on the information we have now, we think that is a good number, is a step in the right direction. Whether it is the total number will be part of the analysis I alluded to earlier, that will be conducted over the next year, the J/cm3 study, which the last study just looked at interceptors. This new study will look at interceptors, launch systems and sensors.

O'REILLY:

Senator, could I very briefly, prior to the phased adaptive approach decision, the plan was for 27 Aegis capable ships. After the decision, the plan was changed to 38 Aegis capable ships.

And -- and we will continue to look at that -- at that -- at that question. I'm sure not just with the current study, but over the -- over the years as we see how the threat -- how the threat changes and how our capabilities develop, that fundamental element of the -- of the adaptive part of that phased adaptive approach.

WICKER:

OK. Well let me -- let me move on to one other thing.

Dr. Gilmore, in your testimony you talk about the ripple effects of a test failure, such as the recent GMD flight test, FTG-06, and to say that the ripple effect can be significant.

I think our chairman and ranking member alluded to this in their statements. Why in -- in -- can you -- can you give us in a nutshell, why we had this failure?

GILMORE:

Well, General O'Reilly can talk about the details as well as I can. But -- and perhaps better. But the failure investigation is underway.

I'm not sure exactly what we can -- we can say about the -- the failure. I know you --.

WICKER:

Is it classified? Or is it just premature to answer that?

O'REILLY:

It's classified, sir. But there are two -- I can, sir, that -- there were two failure modes.

The first was the sea-based X-band radar stopped transmitting at a certain point in time. And we understand why now.

And second of all, we had a new version of the GMD kill vehicle. It was the first time being flown, longest any kill vehicle's been flown. And we also encountered a problem that we've been able to identify on that design, and our intent is -- is to make those corrections and test again this year.

WICKER:

OK. But would Dr. Gilmore -- I guess my -- my question is according to your testimony, the -- the testing is very complex. And -- and fraught with potential -- the potential for other failures.

Can technology realistically meet the goals of this phased approach? And -- and what are we to -- to draw from your testimony that says an Aegis BMD test failure in the next year could impact the full implementation and assessment of Phase 1? And the phased adaptive approach whether it fits (ph) of Europe?

Did the test that you spoke of in your testimony, what did it do to our timeline? And what effect might a -- one of these very possible failures have on the timeline?

GILMORE:

When there is a test failure, there is less knowledge gained and it will take longer to gain the amount of knowledge that we wanted to gain.

So, in the case of the failure of FTG-06, I think that -- that General O'Reilly's still assessing what the -- what the changes will have to be that are implemented in the IMTP and that will be -- and that will be something that you would decide within the next six months or so, I think.

But there's a potential for, you know, tests to get bumped down the road in order to collect in the next test the information that would have been collected in this test. So the implication is that there would be less knowledge known in any given point in time.

With regard to the -- the phased adaptive approach and whether it's technologically feasible, yes, in my view it's certainly technologically feasible. It will take time to test it, just like it takes time to test all of these complex systems.

This is -- these are particularly complex systems. But all defense systems are complex. And we have a history of learning as we go along.

And -- and some of the programs taking longer to test and pan out than we had originally hoped. But I have no reason to expect that testing of the -- the phased adaptive approach and the SM-3 -- the various versions of the SM-3 interceptor will be particularly unique in the testing history of this program or other programs.

WICKER:

Thank you.

LEVIN:

Thank you, Senator Wicker.

Senator Bill Nelson, with thanks to Senator Hagan?

BILL NELSON:

Secretary Miller, with the Czech Republic, we're going to have some form of shared missile launch information.

You mention this in your prepared statement. And, you indicated it's a near-term effort.

So, do we need to provide for some funds or authority to conduct such information sharing?

MILLER:

Senator, we've begun discussions with the Czech Republic on shared early warning. The required funds are relatively, indeed quite small.

We are currently assessing whether the Missile Defense Agency, and/or the Army have the authority to extend those funds; and, sir, if -- if we are unable to resolve that in the very near-term, we may come back and ask for specific legislative authority to -- and this would be in -- in the single-digits of millions of dollars.

BILL NELSON:

Let me ask, Dr. Gilmore, in your prepared testimony you stated the -- talking about the airborne laser. The engagement was not an operational test conducted under operationally realistic conditions.

Then, why don't you give us more detail, why this was not an operationally realistic test, and why it's not a basis for using this aircraft as an operational weapon system?

GILMORE:

I'd be happy to do that. I can summarize some of those reasons immediately, and then I can also refer you to the -- the report on the airborne laser that I submitted to the Congress this past January, which will spell out in -- in greater detail -- a lot greater detail what I'm about to say.

The range at which the intercept was conducted is not operationally realistic,

because modern air defenses would preclude the aircraft from penetrating into the air space of any country, even a small country like North Korea to -- to a position, such that the range at which this particular foreign military asset was engaged, was realistic.

So, you would -- you would have to demonstrate the capability to engage threats successfully at several times the range that was recently -- that was recently demonstrated. And, the next test will be at about twice the range of the initial test. But even that would not be an operationally realistic range for an engagement.

And in the case of larger countries like Korea, unless the power of the laser was substantially larger than the laser power in the current system, or even the objective power that was originally sought, which was, I think, about three times this -- the amount of power that's in the current system.

Even with a much larger power laser in a larger country like Iran, there would probably always be locations from which a launch could occur that an airborne laser that had to stand off outside the Iranian borders couldn't engage.

In addition, there are other things that some people may regard as more mundane but which are very important for a system to be operationally effective in combat. For -- for example, you'll have to have a logistics system that will support the operations of the aircraft when it's deployed.

We don't have that for this aircraft. It could be gotten, but we don't have it currently.

There would have to be a relatively large -- this was alluded to previously. There would have to be a relatively large fleet of aircraft. We would probably need one or two orbits of aircraft even for -- to defend launches against a country like North Korea.

Each orbit would have to have two aircraft in it to assure that one aircraft at any given time could engage. So if you want two aircraft and they would have to be up continuously, because -- because you can't give the enemy an opportunity to shoot when the aircraft land, then you would have to have another three to five aircraft to support those two up continuously.

So that's, you know, a fleet of ten or more aircraft would be needed in order to have an operationally effective system. So those are the highlights. And there are more details in the report I submitted.

BILL NELSON:

What about the difference between chemical lasers and solid state?

GILMORE:

As General O'Reilly can discuss, probably in greater detail than I can, there are some concepts. Some of which are being worked on at some of the national laboratories for solid state lasers, which would have higher power than the current -- sort of, hybrid solid state chemical lasers that would have higher power than the current laser in a much smaller package.

So that would mean that it would -- you could -- could put it on an aircraft that's smaller than the large 747 on which the coil has been placed. And, the Missile Defense Agency is pursuing those kinds of technologies. So they do offer promise, and General O'Reilly could probably say more about that.

BILL NELSON:

Mr. Chairman, I want the record to reflect that several predecessors ago of General O'Reilly, General Kadish, testified to this committee, and this is years ago, that the chemical airborne laser was, by the time that he testified, was going to be ready within ten months.

And of course, we've heard the testimony today that it's nowhere near it. And, I thought that strange at the time. And have made some remarks since about that -- that kind of information coming to this committee which was wildly optimistic, indeed a fantasy, is not the kind of testimony that this committee should be receiving.

Thank you, Mr. Chairman.

LEVIN:

Thank you for the recollection. You're a -- you've got the memory here -- an institutional memory on this subject. But a lot of other subjects as well, which is invaluable to us.

So, Senator LeMieux?

LEMIEUX:

Thank you, Mr. Chairman. And I want to thank all of you for your service and for the important work that you're doing on missile defense. It's really essential for the emerging threats we have in the world that we're facing.

I want to go back to something, Dr. Miller, that you talked about and see if everybody's in agreement with this. I believe that you testified that you believe that Iran could possibly have and ICBM by 2015?

MILLER:

That's correct. As was noted, that would assume foreign assistance.

LEMIEUX:

Is that everyone on the panel's opinion as well, any differing opinion?

O'REILLY:

Sir, I don't have a differing opinion.

LEMIEUX:

We heard from General Cartwright, I believe it was, a couple of hearings ago, in terms of development of a nuclear weapon by Iran, that he thought that that would be, you know, at its earliest, going to be a three to five-year period which would also bring us to about 2015.

Is that your understanding as well?

(UNKNOWN)

Sir, there is a tremendous amount of uncertainty associated with both of those estimates, with respect to a nuclear weapon. But, what I think (ph) -- one could have confidence is that it's well beyond a year. And, it is more likely in that -- in that -- in that three plus time year timeframe.

LEMIEUX:

I want to focus you on a topic, if I can, in another potential area of threat that's not talked about a lot. But it's being talked about more and more in this committee.

And the chairman and ranking member and myself have raised this issue when we've talked to our friends from SOUTHCOM. And I want to set the table for you on this topic because I think it has an impact on missile defense.

More and more we're seeing Venezuela as an emerging threat to, I believe, to the United States. We have evidence from a Spanish judge that Venezuela was collaborating with a -- a group in Spain to potentially assassinate President Uribe.

I had the opportunity this past weekend to go to our joint interagency task force in Key West which does tremendous work on interdicting narcoterrorism. And, we know that Venezuela is allowing for airplanes to fly over its space to bring drugs and other contraband to -- up to the -- up Central American towards Mexico to the United States. And that they're a willing collaborator with the FARC.

We know that Hezbollah and Hamas now have a presence in Latin America. And, we know that Tehran and Venezuela through Chatus (ph) and Caracas have more and more connections.

And I -- I want to pose to you and put on your radar screen for thought and contemplation that we should not be just concerned about a threat from Iran from the east, but we should be concerned about a threat from Iran from the south.

And if -- I'm worried that in the next ten years we're going to be talking about Venezuela trying to obtain a nuclear weapon. And with this dangerous alliance that's growing between Iraq and Venezuela, I want to pose to you the question of whether or not our missile defense system would be capable of intercepting a weapon that was launched

from South America?

O'REILLY:

Sir, the phased adaptive approach that we're using for missile defense applies, of course, to other areas other than Europe, especially in the United States. And, the phased adaptive approach applied here to our territory would provide that defense.

LEMIEUX:

And would that be through Aegis ships or would that be through -- what would be the mechanism for that defense?

O'REILLY:

It -- it could be for the type of ranges you're referring to, you would need to use Aegis either Aegis ashore or Aegis on ships, which we can surge into the area.

LEMIEUX:

Right now, am I correct, Admiral, that there are two Aegis ships that are on the east coast of the United States, or BMD capable ships?

MACY:

There are at any given moment, it could be anywhere from two to five. And, there are more as time goes on, because we are increasing the number of East Coast Aegis ships with BMD capability.

Not necessarily for that reason, even though as the general pointed out, you would apply it in that direction should you have the threat direct result. But as a matter of, if you will, just a practical fleet management, it's closer to the Mediterranean and parts of the Middle East from Norfolk than it is from San Diego.

So, the Navy is looking to more evenly distribute the number of BMD ships they have, if you will, in the two major fleets, Atlantic and Pacific.

LEMIEUX:

And in terms of the Atlantic, that would obviously provide for those ships to be in the south, you know, around Florida and the Gulf of Mexico?

MACY:

Yes, sir. Again as -- as you adapt to, in phases to what you believe Venezuela may be doing, it would be exactly that. And do you have ships, would there be Aegis ashore sites

placed (ph) in various locations, and then you would build up the architecture appropriate to that reason -- excuse me, that region.

LEMIEUX:

In terms of a -- a missile, what you and I assume need an ICBM to launch from South America to hit the United States, it would be a mid-range missile, is that correct?

MACY:

Yes. A mid-range to intermediate range, and then we can talk about who picks how many thousand kilometers a switch, but yes, sir.

O'REILLY:

Sir, if I could interject very briefly, I just want to clarify that we have no plans to deploy Aegis ashore within the United States.

It -- one of the advantages of phased adaptive approach is that that option would always be available in the future. But as would suggest that should the threat you posited arise, a sea-based capability should be able to -- to cope with it.

LEMIEUX:

Do -- does Iran now possess medium range missiles, or short range missiles?

O'REILLY:

Sir, the answer is yes to both of those questions.

LEMIEUX:

Well, I ask that you all, as I have, our leaders in CENTCOM and SOUTHCOM and others to put this in your analysis, if you've not already done so, in going forward, because I believe that there is a -- a gathering storm in this alliance between Iraq and Venezuela.

I was also concerned to see that China has decided to give billions of dollars in aid to Venezuela. And, I ask that you focus on this topic, because I think it's a -- it's something that we're going to be dealing with in the years to come.

Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator LeMieux.

Senator Hagan?

HAGAN:

Thank you, Mr. Chairman, and thanks for your testimony today.

I -- I do support the administration's phased adaptive approach to ballistic missile defense, because it incorporates the relevant technologies in an accelerated time fashion to respond to the evolving threats that are out there.

And, this approach augments our current technologies in place to protect the U.S. homeland against long range and intercontinental ballistic missile threats. And, it is also provides an enhanced capability to defend against short and medium range ballistic missile threats to our personnel that are deployed in the regional forward operating bases and headquarters, and obviously as well, our allies in Europe, the Middle East and Southwest Asia.

The Navy's mission of protecting Europe from ballistic missile attacks has widespread implications for the surface fleet, potentially deployment schedules, crewing arrangements, and command and control procedures for cruisers and destroyers.

Admiral Macy, what will the -- what will be the command and control procedures regarding the use of sea-based SM-3s for the purpose of intercepting ballistic missiles fired toward Europe from Iran, or some other rogue country in the Middle East, or the southwest Asia?

And, will the authority to fire the missile rest with the regional combatant -- combatant commanders?

MACY:

To answer the last one first, yes, ma'am.

HAGAN:

OK.

MACY:

If I may take a moment, in ballistic missile defense, command and control can be thought of as encompassing two areas of effort. The command area, which is where you do your planning; you determine your pre-planned responses, your rules of engagement. What are those assets you're most particularly going to focus on protecting, and so forth?

And, you can think of the control area as being the execution part. Once the missiles are flying, the timelines are such that the interaction in control is very limited.

HAGAN:

Sure.

MACY:

And you find that in order to be successful, the operational commanders, down to the level of the commanding officer of that destroyer, needs to have the authority to carry out the plan that was developed earlier, in order to do -- to succeed in the intercept.

So, we talk about what is the arrangement in the control area. It will -- it would follow if we were conducting this in a U.S. context, it would be in a line of command that comes down from the European command, through an area air defense commander, notionally, possibly down to a regional defense commander, to the commanding officer of that ship.

But, who would be carrying out the plans he was given until told to stop. Because that's where command interaction and BMD most often comes in is to tell you to stop, not to go.

We like to tell people that to be effective, the first phone call you're going to get from that young commander is not what he wants to do, but what he just did. So, the issue is on the command side. So that's where you're planning and your decision making occurs.

In a U.S. context, that would be under -- in the case of Europe, under the issue of -- under the command of European command, Admiral Stavridis, in his U.S. hat. General Brady is the U.S. Air Force Europe commander, and who also has the responsible for -- responsibility for missile defense efforts under Admiral Stavridis. So that would be that organization.

As I mentioned in my opening comments, I did have the opportunity yesterday to participate with the vice chairman on briefing the North Atlantic council. And that was a part of the discussion, is what do you mean by any NATO context?

It is our belief that should NATO take this as a mission, we would then develop the missile defense command and control within a NATO context, in which you would have a missile defense adaptation of the military procedures that we follow now. NATO would be involved in the command part, developing the plans, understanding what the rules of engagement would be, under what circumstances you would start to commence active missile defense, launching interceptors.

And that the NATO command and control, once they had the capability -- the physical capability to participate through adaptation of the ALT BMD (ph) system or others, we believe the ALT BMD (ph) system is the proper approach to take that up to upper tier and to a territorial capability. Then would have more and more hands on involvement in the command of it, and it would fall under the NATO military procedures now, where SACEUR, and Admiral Stavridis in his role with SACEUR, would shape underneath him.

As it happens, the U.S. Air Defense Command focus is at Ramstein. And that is also where the NATO Air Defense Command focus, the buildings, are located. So, it would be done in that context.

HAGAN:

Thank you.

MACY:

Yes, ma'am.

HAGAN:

As you've indicated, the administration's phased adaptive approach for ballistic missile defense involves building two land- based Aegis BMD systems in Europe. Some observers suggest that the establishment of two, Aegis ashore sites would allow a reduction in the number of BMD capable Aegis ships needed for European ballistic missile defense operations.

General O'Reilly, what modifications are needed to make the SM-3 suitable for use as a land-based missile? And, what are the technical risks associated with these modifications?

O'REILLY:

Senator, one of the advantages of the land-based SM-3 is that it's -- is that we would not change the missile configuration used at sea or at land. It gives the Navy and the combatant commanders a greater pool of missiles to manage from, create more operational flexibility.

Each site can maintain between 80 to 120 missiles. So there's a tremendous amount of fire power at each location.

We're literally are taking the Aegis system so that it is duplicated on the land. We have no special logistics requirements or training requirements for manning our command and control. So that in fact, it is very adaptable to the Navy.

Again, it can be moved within four months. So if we see the threat has diminished in one location or moved to another, it is very readily adaptable to remote sites or large protection. So, we don't plan on making any unique changes of the Aegis system to be adapted to the land.

HAGAN:

Thank you.

And General O'Reilly, when you were in my office recently, I was asking you the question on where do you get the highly capable, trained individuals who do the technology, the individuals, the scientist? And I do want to thank you for recruiting also at the universities and schools within North Carolina. Because I know we have a lot of very capable individuals in -- in our state too.

As you know, following the official signing of the new Strategic Arms Reduction Treaty, the Russian government announced that it reserves the right to withdraw from the

treaty if its national interests are threatened. The Russian government also announced that the new START Treaty will only be effective if there's no build up in capabilities to the U.S. missile defense system.

Mr. Miller, what is the administration -- or how is the administration reconciling Russia's caveat under the new START Treaty with central Europe demands for a role in U.S. missile defense plans?

MILLER:

Senator, the United States made a unilateral statement as well with -- with respect to new START. And it -- I'll just give you the relevant element of it.

And -- and I'd asked earlier that it be submitted for the record. And that is that the statement says very directly that quote, "The United States intends to continue improving and deploying its missile defense systems in order to defend itself against limited attack, and as part of our collaborative approach to strengthening stability in key regions", end quote.

What that means is that, both with respect to any necessary improvements for our homeland defense and for phased adaptive approach in Europe and in other regions, that -- that we intend to make what -- what improvements are necessary to continue to protect our homeland, our forces deployed overseas, and our partners and allies.

HAGAN:

Thank you, and my time is up. Thank you.

LEVIN:

Thank you, Senator Hagan.

Senator Sessions?

SESSIONS:

Thank you, Mr. Chairman.

General O'Reilly, I'm concerned about whether or not we're going to adequately continue to complete the deployment of our missile defense systems, the ground-based midcourse defense system, that we spend decades perfecting and -- and it's really exceeded most people's -- almost everybody's expectations in technology, is proving effectiveness and that sort of thing.

And so, there's some that have opposed it. And as a result, it seems this administration to me, is a pennywise, pound foolish in the sense that once we've done all this, let's complete it.

And I'm concerned about whether or not we're building enough -- we're deploying

enough of these missiles, number one. And number two, whether we have enough to maintain any kind of testing that we need.

GMD program manager and the executive director briefed staff about the MDA, your agency plans to acquire only 52 ground-based interceptors. Thirty will be deployed and put in the ground, while the remaining 22 will be used for testing.

SESSIONS:

By fiscal year '19, based on the plans that are ongoing, MDA assumes that the developmental testing will be complete. The initial developmental testing will be complete. But that will leave only three ground-based interceptors for a stockpile reliability testing through 2032.

So from 2019 to 2032, we have only three missiles according to our present plan. Twelve years to do testing.

By contrast, the Air Force conducts three flight tests each year on the Minuteman III ICBM. And, the Navy conducts four on the Trident SLBM missile.

So is this enough? And, don't we need to file the assembly process that's still available to us, produce enough of these missiles so that we can maintain testing in the years to come?

O'REILLY:

Sir, working with the test community represented by Dr. Gilmore and the operational test communities, we did work together and determine that by 2019 if the tests are successful, we do believe that we will have the data necessary to confirm the performance of the ground-based midcourse defense system and all anticipated flight regimes.

We also have designed a missile which is -- it has incredible capability of maintaining its health and status. Not only do we constantly maintain the health and status of these missiles, we also run periodic checks thoroughly to verify its performance and the proper functioning of all of the systems.

We will conduct 4.3 megan (ph) checks of these 30 missiles over a 20-year period, plus 600 other tests where we remove the missiles, remove components from it, test those components and refurbish the missiles with brand new components.

SESSIONS:

Well, would you -- have you been able to -- I think this idea came from on high somewhere to cut the number back. But are you confident that enough analysis has been done to conclude that through that 12 years, there's going to be enough missiles to do actual testing? And will you let us know if you conclude there's a problem?

And don't we need to do it soon? Otherwise we'll have to restart an entire assembly process.

O'REILLY:

Sir, we -- we do today have to restart an entire assembly process. I'm faced with that right now.

What we currently are -- are building will take us through 2016 with the full production line. But yes, sir, I do have -- have monitoring responsibilities to ensure that we have a production base that will take our refurbishments all the way to 2026. And, we do need an industrial base to do that.

So, yes, sir, and I will report back if I determine that we need more missiles based on our estimation.

SESSIONS:

I...

(CROSSTALK)

SESSIONS:

...would firmly believe that we're cutting the number too close. And then, it would then -- and I hope that it's not too late to re-evaluate that now, when it would be a lot less costly.

General O'Reilly and Dr. Gilmore, the industrial base supporting the production of solid rocket motors necessary for the ICBMs, SLBMs and EELBs is under strain. The recent decision to cancel NASAs constellation program will likely reduce the customers' base for solid rocket motors substantially, raising costs and perhaps lead to a loss of industry proficiency.

It's estimated that cost for solid rocket motor programs could rise as much as 150 percent to 200 percent for the Department of Defense. This is because, as I understand it, NASA has been consuming about 70 percent of the solid rocket motors and keeping the system moving forward.

So, General O'Reilly, I understand that you or the Department of Defense was not consulted about the -- the -- this NASA decision on the canceling the constellation program. This is our manned space flight planned for the future.

And, what impact does that decision have on MDA?

O'REILLY:

Sir, for BMD, we were -- for BMD we were not consulted. Our solid rocket motor usage for large solid rocket motors was about 8 percent of the total production done in the United States every year.

So, we had a very small part to play. As you said, it was dominated by NASAs use of

the solid rocket motors.

We have an increase in the small solid rocket motors based on the -proposed budget that we have submitted to Congress, where we will consume over 550 tons of small rocket motors in the next five years. So, we actually have a reverse process or challenge of having that production capability for small solid rocket motors.

Yet at the same time, as you said, we have had a severe reduction in the industrial capacity to produce the large solid rocket motors. We are producing, or procuring, five additional booster sets for our GBIs. One reason is they are economical to buy now, to use them at a later date if we need to for testing or other purposes.

SESSIONS:

Well, I'm worried about it. Dr. Gilmore is the secretary of defense concerned about the shrinking solid rocket motor industrial to base and the issues that General O'Reilly mentioned?

GILMORE:

Senator, with all due to respect, I think that General O'Reilly tracks the industrial base issues more than I do. I focus on the testing issues, not on the industrial base issue.

So, he -- he would be best -- the best one to answer that question.

O'REILLY:

The --.

(UNKNOWN)

Senator, if I could interject very quickly.

SESSIONS:

Yes.

(UNKNOWN)

I do know that the undersecretary for acquisition technology and logistics, Dr. Carter is currently undertaking a study of -- of the industrial base for solid rocket motors.

SESSIONS:

Well, the president's already indicated that he's rethinking some of the NASA issues, which I appreciate him doing. And, it may well be -- and I really think that he should do

that, because I strongly believe we -- we don't need to abandon our leadership in space.

And secondly, there may be ways in which we can recognize this symbiotic relationship between NASA and Defense Department that could be a basis for being able to continue that program.

Mr. Chairman, I would just say I want to ask a question at this point, but I'll maybe submit for the record, my concern over the fact that we were ready to test or ready to test the two-stage GBI which was going to be deployed in Europe, and will be deployed in the United States. And, it's ready to go forward, but our plan to create a -- an interceptor in Europe capable of knocking down an ICBM has been delayed.

It looks like it -- ICBM that would hit the United States appear to be delayed as late as 2020. I think that's a mistake. And, we'll want to pursue that as we go forward.

LEVIN:

Thank you, Senator Sessions.

Is that submitted for the record, the answer will be forthcoming promptly, we hope.

Senator Reed?

REED:

Thank you, Mr. Chairman, thank you, gentlemen.

General O'Reilly, in our opening comments you talked -- made the point that the missile fields in Alaska were positioned to engage both Korea and Iran. Just a point of clarification, is that the -- the -- does that affect the launches, or the radars and the launches?

Can the radar, if it was contained (ph) in Alaska pick up a target coming from Iran?

O'REILLY:

From -- the comment was, sir, the actual -- from the -- a polar projection, the closest point to the United States to Iran is actually Alaska.

REED:

Yes.

O'REILLY:

And, the same with North Korea. For our radars, the -- we have the Fylingdales radar in England, and coming on line next month will be the Thule radar in Greenland. They provide our northern observation and tracking of missiles launched from that part of the

globe.

REED:

So that's both in terms of acquisition of the target and -- and launching to intercept. Alaska is well-positioned vis-a-vis Iran and North Korea?

O'REILLY:

Yes, sir. And as Secretary -- Secretary Miller said earlier, the contribution of a forward-based radar in southern Europe adds tremendously to that capability also, because we can track even sooner.

REED:

One other aspect of this is not only the forward-based radar but also space satellite observation and integration. Does that enhance our ability to acquire the target and engage it?

O'REILLY:

Yes, sir. We currently have a satellite system that tracks booster launches. But, we have put into space last year, two demonstrator satellites that not only demonstrate tracking a missile and launch, but the entire flight of the missile.

And yes, sir, we have a proposal for the precision tracking space system which then would be established by the middle of this decade, that would also track hundreds of missiles being launched over their entire flight, and would provide information to both GMD and the Aegis system for intercepting.

REED:

And, the -- the plan now would be -- or I'll ask you the question. I don't presume the answer.

The -- Aegis would engage first, and then the ground-based missile would engage later in the flight?

O'REILLY:

In the 2020 time, sir, in the timeline that we believe it's very feasible to have a -- a high acceleration interceptor in an Aegis system. Yes, sir, we -- the plan would be to have an early intercept, soon after boost, and destroy the missiles early in flight. And if not, then we have the GMD system for the second attempt.

REED:

OK. And relatively speaking, the -- the -- the reconfiguration of the system, has that advanced our ability to engage Iranian targets, or delayed it?

O'REILLY:

Sir, it -- it has greatly advanced it. Because we now have the capability to utilize sensors, not only on ships for example, but they also have the ability to use sensors at any location, of any frequency of any bandwidth.

And that significantly helps us launch interceptors sooner, so we don't have to wait for them to -- for a missile to get close enough to a ship in order to launch. The ship actually uses all sensors available to it.

REED:

Let me ask another question about Aegis, and that is the shore sites. You talked to Senator Hagan about this. But, one of the constraints obviously is vessels at sea and operational.

The shore-based Aegis will in fact relieve some of that pressure. I don't know if Admiral Macy would like to respond or --?

O'REILLY:

Sir, I'll - I'll just say yes, sir.

REED:

Yes, OK.

O'REILLY:

That -- that -- that was the discussion last year. And, it was highly discussed with the joint staff and the Navy. And, I'll defer to Admiral Macy.

REED:

All right.

MACY:

One other point, senator.

REED:

Yes, sir.

MACY:

I'm in violent agreement with the general. It is also attractive financially.

In simplistic terms, we're taking the top third of the destroyer and putting it on a concrete pad. Therefore, I don't have to buy or operate the bottom two-thirds.

So we expect to see some. This is not going to redo the United States budget. But we do expect to see some savings from being able to station the capability that way, without all the attendant things that come with the ship.

REED:

Are you -- planning just so the contingency to scale up to have multiple further sites?

MACY:

As the need, yes, sir. That would be the point of -- right now the plan is for two. As I mentioned earlier, I believe in my conversation with Senator Hagan, the other combatant commanders are also looking at it.

None has, as yet, expressed the need. But, they are certainly looking at it. And in a number of ways, it's just as attractive to that commander because he also has to buy fuel and take care of that ship when it's in his AOR.

REED:

Right.

MACY:

So, the -- one of the big things about this is we could put one in other areas including the SOUTHCOM region. Though as Dr. Miller said, right now we don't have a plan. But, yes, sir, we could buy more and do that.

REED:

And, these -- the launching system is re-locatable. So, you could -- you could move these? You wouldn't have to buy another set. You could -- if -- if the need arose, you could just move it to another location.

MACY:

Yes, sir. That is -- that is our -- our concept for how this would go. We have asked the Missile Defense Agency to include as part of their engineering assessment, the ability to move this in four months.

As a -- as a starting point, and then we'll understand -- understand from them, the cost and difficulties of doing -- but, it is definitely, we would like to be able to pick it up and move it somewhere else.

REED:

Let me just ask the question, and someone can decide who should answer it. And that is, that we've canceled the -- the cruiser CG(X).

And, we're going to essentially replace that with a flight three (ph), the DD51s (ph). The radar on the flight three (ph) is a scaled down version of the AMDR which is going to on the cruiser.

Are you losing anything in that scaling down, any capabilities? And what are the implications essentially of canceling CG(X) to the BMD program?

MACY:

We believe that within the BMD program, the implications can be handled by a -- a -- a different architecture. Though you have notionally a scaled down radar, and I want to be careful how I say that.

And as I'm sure you're aware, sir, if we get too much father into that discussion, we'll have to have in a separate room.

REED:

Yes, no, I --.

MACY:

But, the other thing I want to go back to is what the general brought up is, we are looking to the future to create an architecture which takes advantage of all of the sensors that are available in the particular battle space. Such that you are not limited to the instrumented range of a SPY-1 or a THAAD or any other sensor.

That by using what we call the engaged on remote technique, you will have one launching system launching one or more interceptors which are being guided by data coming from separate sensors, not necessarily part of their generic system; and quite likely, controlled by a battle management system in a third area and a third capability to get beyond the limitations of such things as the curvature of the earth.

That just gets in the way of your radar. So, we'd like to get beyond that.

So, the goal here is to not be -- focusing on our architecture which is a closed system, fire controlled system, but an expanded, engaged on remote capability.

Thank you.

REED:

One final, quick, question, Dr. Miller. The START Treaty's been discussed and one of the conditions is that we would not, except for grandfathered silos, convert silos into BMD capable. My understanding is that we have no intention to do that, that it would actually be cheaper to build new silos.

MILLER:

Senator Reed, that is absolutely correct. The steam silos at Vandenberg were grandfathered by the treaty and we have no plans to do additional conversions.

As I believe General O'Reilly's statement included, in fact, if we were to go forward in -- with additional silos, it would be cheaper to use -- to build new ones than to convert.

REED:

So if that was a key negotiating point, we gave something away that we weren't going to use anyway? So, I'll -- that'll be my comment on yours.

Thank you.

LEVIN:

Thank you, Senator Reed.

Senator Udall?

UDALL:

Thank you, Mr. Chairman. Good morning, gentlemen. I want to thank the chairman too for his patience and for staying here and giving me an opportunity to ask some questions as well this morning.

Dr. Miller, thank you for your common sense explanations on the START Treaty. There are certainly voices that, I think, in some cases, whether intentionally or not, muddied the waters and I for one look forward to coming to the floor of the Senate. I can't imagine we wouldn't find the votes to ratify it, in part because of your incisive and helpful explanations of what are included.

If I might, I'd like to follow-on and talk a little bit about NATO-izing European missile defense. I know that there have been some positive statements issued on the PAA, but there's been no collective endorsement by the NATO heads and I hope that I understand -- actually, let me differentiate those two.

I understand the administration's hoping to secure such an endorsement at the Lisbon summit later. Can you discuss any progress that's been made within the alliance on this subject?

MILLER:

Senator Udall, we began conversations with our NATO allies about the phase adaptive approach as we are conducting the ballistic missile defense review. So they were not -- they were not surprised as we went forward with this approach and in fact, very shortly thereafter, we issued a statement of support as an alliance for a phase adapted approach for Europe.

Since then, we've continued discussions as we've moved forward with the first agreement by Poland to host a land-based site. An agreement by Romania to do the same. As we discussed earlier, we're moving forward with the Czech Republic in developing a shared early warning capability as well.

With respect to command and control, we will continue to work within a NATO context. We see the phase adaptive approach as being the US contribution to a NATO territorial missile defense and, sir, you're correct that we hope that at Lisbon the alliance will in fact approve that as a NATO mission.

UDALL:

Dr. I understand that part of the focus is on protecting civilian populations, not that military assets should be -- not be protected as well, but there is a focus on civilian populations, is there not?

MILLER:

As the system develops through its phases, by phase three, we have the capability for territorial defense of NATO Europe, which would include defense of populations.

UDALL:

OK. Thank you.

MILLER:

Earlier phases would, of course, have the same capability, but just not over the same breadth of geographic area.

UDALL:

Thank you for that.

General O'Reilly, good to see you. We're proud, at Colorado, to host MDIOC at Shriever. I always look forward to going down there and at least understanding a bit of what's going on down there. Because we have such smart people there on the ground.

I understand you created a new program this year, the precision tracking space

system. I think the acronym is PTSS. To -- it would enhance the effectiveness of all missile defense systems and reduce reliance on land and sea-based sensors.

Given the ongoing challenges in space acquisition, which we have talked about in other ways this morning, can you assure the committee that this program can be delivered in a timely way, at a reasonable cost?

As a follow-on, can you explain why the MDA is planning on acquiring a satellite capability when the Air Force has primary expertise for space systems?

O'REILLY:

Sir, the PTSS system, the strategy to develop it, was based on studies, many studies, in the past, of what were challenges and problems with previous satellite development programs.

Two of them was the requirements being quite large on a small package and second was to use technology that wasn't mature at the time the program started.

So the PTSS system was designed to be a very simple satellite system. It is -- and that's a key hallmark of it, is the size of it. It is designed to stare at certain parts of the Earth and do just that and transmit down what it sees for fusing with our battle management and control systems on the ground.

So we believe the strategy that was laid out and the cost estimates, we've had several independent cost estimates and we've been very conservative to ensure that this is -- can be developed on a -- on the time line stated and in fact endure setbacks and still be developed on the time line stated.

The costs are very conservative for this and the approach is very simple and we did that intentionally in order to ensure that we don't have problems in executing this.

The missile defense agency actually does -- will not manage the satellite aspect of this program. It is a system, though, that involves the command and control, the whole fire control system, the information transmitting and so forth. So the entire network needs to be integrated into our Aegis system and -- especially and our ground- based mid-course defense system. That's the expertise and the integration that missile defense agency brings.

We are utilizing the Navy research lab, which has a history of successful launches of these size of satellites, with Johns Hopkins University also has the same history in order for us to verify we understand the requirements. Again, going back, looking at the history of satellite programs and where they've had trouble, we want to assure we know what we're going to ask industry to build. At that point, we will compete in the satellite systems for development.

Ultimately, sir, you're correct. The Air Force will be managing this and therefore they have an Air Force cell that's embedded in our team, so that we ensure that everything we're developing follows their data management and their ground control systems out at Shriever, which will be operating the system.

So we believe we've built a team together, capitalizing on the core competencies and

then the missile defense agency has to be the one that is ultimately responsible for developing a missile defense capability will all our fire control systems and utilizing the benefits of those space-based sensors.

UDALL:

Thank you for walking me through that process and that construct.

Dr. Miller, Admiral Macy, let me turn to the East Asia and the Middle East, the BMDR and the -- (inaudible), I think the SECDEF put together a very comprehensive and helpful approach to missile defense in general. But according to the MDR (ph), the administration plans to tailor the phased adaptive approach to East Asia and the Middle East.

I understand that these regional missile defense architecture plans are still in development, so the inventory and resources requirements for Aegis and SM-3 and Patriots and THAAD are not certain. The BMDR says the joint staff at STRATCOM are developing a comprehensive force management process, recognizing that the regional demand for US BMDS is likely to exceed supply for some years to come.

The new phased adaptive approach to missile defense is likely to have significant force structure implications. Have these requirements been quantified yet? Given the fact that regional demand is likely to exceed supply for years to come, when do you think the comprehensive force management process will be completed to allocate what, seemingly, are scarce resources?

Admiral, why don't we start with you?

MACY:

We are as close to finishing up the initial estimate on the global force management issues and processes. We've been doing a study since last fall, when it became apparent that this was going to be an issue, when you apply a phased adaptive approach to all three major regions with the current missile defense issues. That effort's been led by STRATCOM and by my organization, JIAMDO, on a joint staff.

We are bringing that to a close in the next few months and we'll be briefing it up to the secretary, hopefully by June, if not before, to address the current near-term needs of allocating the available ships, interceptors, THAAD units, et cetera.

In the longer term, we are -- we'll be shortly starting the joint capability Mix 3 study. This is a follow-on from JCOM 2 that was done a couple of years ago, looking at the sufficiency of interceptors. This one will be a, if you will, a repeat, where we look at scenarios across the three regions, compare them against the co-COM's (ph) war fighting plans and understand what are the implications. We don't expect to be fighting in all three places at one time, but how much overlap do you assess or believe?

This JCOM 3 study is going to be called -- will be starting soon, expects to finish about this time next year. The big difference between it and the previous study is it will look not only at interceptors, but it will also look at launch systems, such as ships and THAAD batteries and it will look independent sensors, such as airborne sensors, TPY-2

radars and so forth.

UDALL:

Thank you.

Dr. Miller?

MILLER:

Senator Udall, I'd just add very briefly that the department has an existing global force management process and over the last year, we've worked to integrate missile defense assets into that process.

I expect that even with the accelerated purchases of missile defense assets, including THAAD missiles and including SM-3 capabilities that we'll continue to have to manage that process for some years to come.

UDALL:

I see my time has expired, but, Dr. Miller, I assume that in the process of developing these plans, we're also working with the nations in those various theaters that are inclined to be supportive of our efforts and are going to be a part of it? Would like to be a part of the process of developing further missile defense capabilities?

MILLER:

Yes, sir, we are.

UDALL:

Thank you, Mr. Chairman.

LEVIN:

Thank you, Senator Udall.

Let me just summarize some of the points that have been made on the phased adaptive system.

There's been a reference made to a gap and the reference is to the following. That if in fact Iran gets foreign assistance that they could have a long-range missile by 2015 or 2017.

Our second missile defense system that would be able to defend against the long-range Iranian missile would not be deployed until about 2020. So that is characterized as a gap of three years or so, having one system instead of two.

Now let's look at the other side of the equation, where the phased adaptive system will have far superior radars. They'll be able to use sensors from many sources, including satellite sensors and airborne sensors.

The -- so on the sensor side of the radar side, the phased adaptive system will be far more capable.

On the interceptor side, the third site, or the old system, would be limited to ten missiles, which means you could maybe deal with five Iranian missiles and the new system will have many, many more interceptors that would be available to it.

So you've got really a double gap with the old system. You've got a radar gap, the old system having far less capable radars, and you've got a numerical missile, or interceptor, gap as well, with the old system.

So far, would you agree with that, Dr. Miller?

MILLER:

Senator, yes, I would agree. I would add that the phase adaptive approach, because we place a forward-based radar in Europe in 2011, that will improve our national missile defense capabilities significantly.

So there's a -- if you will, that's an implicit gap that was closed by the change in approach. We have greater capabilities sooner than we would have for the defense of the United States.

LEVIN:

A greater capability for the ground-based system?

MILLER:

That's right.

LEVIN:

All right.

MILLER:

(inaudible) ground-based system.

LEVIN:

So we'll have a greater, more capable system than we have now in Alaska and California?

MILLER:

It will augment that system and improve its capabilities.

LEVIN:

All right. So we have a more -- the first defense will be more capable. The second defense will be far more capable than the third site would have been, although it will not be available for perhaps three to five years later, if Iran gets foreign assistance and comes up with an ICBM.

So from my perspective, you've got at least a double gap, if you go to the old system, compared to a, at best, a very short-term, or at worst, a very short-term, three-year gap and having a second system in place.

Is that, General, would you generally agree with that? Since you're a general, will you generally agree with me on that?

MILLER:

Yes, sir. I would. On top of that, we have -- there was some discussion about the ability of the GMD system to intercept one time.

When we have the forward-based sensors, that also gives us the ability for GMD itself to intercept more than once, have more than one opportunity in the defense from a launch from the Middle East.

LEVIN:

In addition, the more capable radars on the new system are moveable? Is that correct?

MILLER:

Yes, sir.

LEVIN:

The old radar was fixed at the third site and so there's other advantages as well. But I think that the -- if people want to talk about the gap, the number of gaps that are much greater with the hold system than with the new, at least a double gap with the old system, maybe a triple gap compared to that very short-term so-called gap where you just have one system in place even though it's more capable than having two systems.

Senator Udall, do you want ask anything else?

Thank you all. It's been a very, very useful morning. We appreciate your being here and we stand adjourned.

CQ Transcriptions, April 20, 2010

List of Panel Members and Witnesses

PANEL MEMBERS:

SEN. CARL LEVIN, D-MICH. CHAIRMAN

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SEN. JACK REED, D-R.I.

SEN. DANIEL K. AKAKA, D-HAWAII

SEN. BILL NELSON, D-FLA.

SEN. BEN NELSON, D-NEB.

SEN. EVAN BAYH, D-IND.

SEN. JIM WEBB, D-VA.

SEN. CLAIRE MCCASKILL, D-MO.

SEN. KAY HAGAN, D-N.C.

SEN. MARK UDALL, D-COLO.

SEN. MARK BEGICH, D-ALASKA

SEN. ROLAND BURRIS, D-ILL.

SEN. EDWARD E. "TED" KAUFMAN, D-DEL.

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SEN. JOHN MCCAIN, R-ARIZ. RANKING MEMBER

SEN. JAMES M. INHOFE, R-OKLA.

SEN. JEFF SESSIONS, R-ALA.

SEN. SAXBY CHAMBLISS, R-GA.

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SEN. DAVID VITTER, R-LA.

SEN. SUSAN COLLINS, R-MAINE

SEN. SCOTT BROWN, R-MASS.

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LIEUTENANT GENERAL PATRICK O'REILLY (USA), DIRECTOR, MISSILE DEFENSE AGENCY

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