

STATEMENT OF
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JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION
BEFORE THE
SENATE ARMED SERVICES COMMITTEE
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Thank you, Chairman Levin, Senator McCain, and distinguished members of the committee. I appreciate the opportunity to testify. It is an honor and pleasure to join Dr. Miller, Mr. Gilmore, and Lieutenant General O'Reilly to discuss missile defense and the roles and functions of the Joint Integrated Air and Missile Defense Organization.

The Joint Integrated Air and Missile Defense Organization is a small group of 30 military and government civilian personnel with support staff 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 to support efforts to develop air defense, cruise missile defense, and ballistic missile defense solutions for the warfighter. Key tasks for the organization are:

Advocating for warfighter's desired air and missile defense capabilities within the requirements and budgeting processes.

Providing air and missile defense subject matter expertise and advice to the Chairman, Joint Chiefs of Staff and Commander US 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 roadmap to correlate capabilities to weapons systems and track progress towards delivering those capabilities to the warfighter.

Assessing and validating integrated air and missile defense capabilities by means of simulations, technology demonstrations, and wargames.

Joint Integrated Air and Missile Defense Organization (JIAMDO)

These are challenging activities that will be discussed in more detail, but I want to provide some background on how JIAMDO is structured. We are a Chairman Controlled Activity that functions within the Joint Staff. Chairman Controlled Activities are specialized organizations designed to address unique, overarching areas that are of joint interest. JIAMDO's manning is tailored to provide current operational expertise in air and missile defense and is drawn from across the Services, and in our case is primarily from air and missile defense specialties. Some, examples are: Air Force E-3 AWACS air battle management specialist, Army Patriot surface-to-air missile officers, Navy Aegis Surface Warfare Officers, Marine Corps F/A-18 fighter pilot. The background and experience of these military experts allows them to relate at an operational level with the warfighter and enables them to translate operational needs into requirements documents, analysis and study activities, and demonstrations. It also provides an unequaled pool of experts to support the Chairman, Joint Chiefs of Staff in the development of policies and programs for the warfighter. JIAMDO reports to the Chairman through the Joint Staff Director for Force Structure, Resources, and Assessment (Joint Staff J-8).

Originally the organization was focused on addressing air and missile defense within a single theater of operations. However, the theater ballistic missile threat is evolving and one of its principal characteristics is increasing range, which enables a threat country to attack targets

thousands of miles away. This attack could be crossing through one or more combatant commanders' area of operations or Theaters, which has made the term "Theater" missile defense obsolete. Because of this, the decision was made to change the name of the organization to the Joint "Integrated" Air and Missile Defense Organization. This reflected several factors. First, was the Department's overall shift to address the emergence of longer range ballistic missile threats. Secondly, it recognized the desire to more closely integrate air defense capabilities with ballistic missile defense capabilities. Third, it helped align the organization to support US Strategic Command, which as a result of the changing air and missile defense environment had been assigned the task to synchronize planning for global missile defense.

Joint Integrated Air and Missile Defense

Before continuing, I want to take a moment to provide a brief summary of what we mean by the air and missile defense concept that we support. Joint Integrated Air and Missile Defense is defined as the integration of capabilities and overlapping operations to defend the Homeland and US national interests, protect the Joint Force, and enable freedom of action by negating an adversary's ability to achieve adverse effects from their air and missile capabilities. This capability provides full spectrum dominance against aerial threats – space-based, and ballistic missile reentry vehicles; intercontinental through short-range ballistic missiles; cruise missiles; manned and unmanned aircraft; rockets, artillery, and mortars (RAM). The Protection extends from the Homeland, through friendly nations and coalition partners in a region, and within areas of military operations.

The key enabling factors for integrated air and missile defense include the abilities to provide a battle space picture in which the commander is confident of its accuracy and

completeness; that key intercept systems and shooters have the same high quality picture; that we can defend a broader area through mutually supporting, Joint, interoperable forces; that we can increase the commander's confidence of successful engagement; and, that the commander has the flexibility to rapidly shift resources to best focus their effects on the adversary.

JIAMDO as part of the Joint Staff

JIAMDO is the Chairman, Joint Chiefs of Staff cadre of experts on air and missile defense. One of the duties of the Director, JIAMDO is to serve as the Deputy Director for Force Protection on the Joint Staff. In this function, the Director is responsible for overseeing the full scope of force protection activities in the capabilities development processes including those for air and missile defense. JIAMDO provides the Chairman direct input and assessments on combatant command air and missile defense needs that are put forward in their Integrated Priority Lists. Options on how to address those needs are developed in conjunction with the Services, and JIAMDO tracks the recommended courses of action from approval through the budgeting process to fielding.

Weapon system fielding is another area where JIAMDO works critical issues in support of the Chairman. The fielding plan for new missile defense systems developed by MDA identified a need for the department to develop a process to transition and transfer those systems from MDA to the Services. JIAMDO worked closely with Service staffs and MDA to develop business rules and processes to handle this, and was the lead to take the new process to the JROC for approval.

The most recent example of support to the Chairman was during the Ballistic Missile Defense Review (BMDR). JIAMDO had four key roles in the BMDR. The Director, JIAMDO,

was one of the directors of the review; other JIAMDO personnel served as co-chair of the Programmatic Process & Execution Working Group, led the Requirements issue team, and served in the directorate of activities. In short, JIAMDO played a central role in the development of the BMDR.

The Air and Missile Defense Integrating Authority

In July 2008, US Strategic Command was designated the Air and Missile Defense Integrating Authority (AMD IA) and directed to serve as the combatant commands' representative for air and missile defense. This was an outgrowth of US Strategic Command's ballistic missile defense role where they are the warfighter voice to MDA. JIAMDO's role was also expanded at this time to include support to US Strategic Command in the AMD IA capacity. This is a natural synergy where JIAMDO is able to apply its more extensive air and missile defense expertise and capabilities process knowledge to support the AMD IA. In addition to serving as a link between US Strategic Command and the Joint and Service staffs, and facilitating meetings, document staffing, and briefings, JIAMDO also provides operational expertise and analytic support. This will be critical as the Department evolves the Prioritized Capabilities List, currently how ballistic missile requirements are documented for MDA, to encompass the full scope of air and missile defense. The expanded Prioritized Capability List will provide transparency and insight for developers in the Services for air defense, and in MDA for missile defense. It will also provide a common requirements view for senior decision makers.

JIAMDO and the Combatant Commands

A key part of our contribution is advocacy for combatant commands. 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. The principal avenues used to coordinate the warfighters needs are the capability gap assessments and through a liaison program.

The capability gap assessment is an annual Department process to address the combatant commands' critical warfighting capability gaps in their Integrated Priority Lists or IPLs that identify risk in accomplishing their specific Unified Command Plan missions. Integration and assessment of air and missile defense inputs from the IPLs are the responsibility of JIAMDO. Through direct action officer level discussions with combatant command staffs we coalesce similar inputs from multiple combatant commands into what we call synthesized gaps. At this point JIAMDO begins a detailed cross-walk of gaps to current and planned programs, assesses the on-going efforts to close or mitigate those gaps, and provides a balanced approach to recommend programmatic and/or non-programmatic solutions to close or mitigate remaining gaps against available resources.

Again, through discussions with combatant command staffs we query them as to whether the plan fully meets their needs, partially satisfies it, or does not meet it at all, and carry that position forward in Department discussions and reviews. We also use our relationship with the combatant commands to gain insight into how to quantify the risk for those gaps that are not fully satisfied. JIAMDO then prepares a formal briefing for the JROC that addresses how the gaps are being met, or recommendations on how to address them, which in some cases means

accepting risk. As is true throughout this process, JIAMDO coordinates directly with the combatant command staffs on all recommendations.

From this point forward the coordination becomes more formal. The Director of JIAMDO will accompany members of the Joint Staff, Services and OSD on several trips to the combatant command headquarters. The first trip occurs after the JROC is briefed to ensure combatant commands understand and agree with the plan to address their gaps. For this trip JIAMDO will brief the consolidated gaps and recommended mitigation for the combatant command's gaps from the synthesized group and specifically match it to planned actions. On a follow-on trip, the Vice Chairman of the Joint Chiefs of Staff and the Director of JIAMDO will go to individual Combatant Commanders and provide a forum to more closely examine plans to mitigate that command's gaps and provide an opportunity to address other pressing concerns. This close coordination and contact from the action office level up to the Flag level is the way we meet our advocacy responsibilities and in my opinion the key to successful capabilities development. This direct and repeated contact with the combatant commands enables the Department to understand the full impact of its decisions on the warfighter.

In addition to JIAMDO's role in the joint staff capabilities processes, we have liaison personnel at CENTCOM, EUCOM, STRATCOM, JFCOM, PACOM NORTHCOM, NORAD, USFK and USFJ. The liaison provides a direct link between JIAMDO and the combatant commands. The liaisons are located within the combatant command headquarters staffs, and work air and missile defense day to day issues for both the hosting command and JIAMDO. In many cases they serve as both liaison and as the command's expert on joint air and missile defense. The ability to leverage direct combatant command input on key issues, as well as analysis and wargaming inputs, enables all of our activities to maintain a warfighting focus. This

relationship has served both the combatant commands and JIAMDO well, and provides a responsive and accurate avenue to gain answers to immediate inquiries within DOD.

JIAMDO in the Requirements Process

With that background, I would like to move on to discussing what JIAMDO's role is in the Department requirements processes. Meeting the challenges of countering air and missile threats is inherently a joint activity that requires not just the participation of assets from all our Services, but coherently integrated employment of those assets. Similarly, the proper development of requirements and weapon systems depends on the participation of all our Services, combatant commanders, and key Agencies. JIAMDO serves at the intersection of the requirements processes for air defense and for ballistic missile defense, and acts to integrate and harmonize both their common and differing needs across multiple services, platforms, and systems.

The Joint Capabilities Integrated Development System (JCIDS) is the Department process used for air defense requirements and JIAMDO is at the hub of this process. I chair the first level of formal review and approval in JCIDS, and my deputy runs the joint working group that directs and vets analysis and requirements. As I mentioned earlier, JIAMDO also supports US Strategic Command as AMD IA in their development of the Prioritized Capability List, which is MDA's equivalent of JCIDS. JIAMDO's alignment with the AMD IA positions us to fully examine employment and development interdependencies between ballistic missile defense and air defense, and explore the potential for innovative cross-utilization of technologies. In effect, JIAMDO serves as a bridge between the Department's capabilities development process

and the PCL process and enables the warfighter's needs to remain as the focus of both those activities

This is why JIAMD is manned with air and missile defense operational personnel and positioned within the joint staff. These unique attributes, and the growing linkage between JCIDS and the PCL allows us to understand what is needed for the joint fight, and recognize opportunities to leverage capabilities across the air and missile defense mission area.

The Integrated Air and Missile Defense Roadmap and Operational Architecture

One of the techniques central to achieving the vision of integrated air and missile defense (IAMD), in the practical landscape of budgets, technology and time, is the Integrated Air and Missile Defense Roadmap, which supports the IAMD Operational Architecture. JIAMD works with STRATCOM, the Combatant Commands and the Services, to develop the roadmap as a culmination activity where the hardware needed to meet operational concepts, architectures, and requirements is brought together to provide a moving snapshot of progress toward meeting warfighter needs. Getting to this point requires significant effort in many areas. It begins by bringing the Services and combatant commands to agreement at the macro level on what the air and missile defense problems are, now and in the future, and what the desired end state is. An Operational Concept does that. Through a process of joint meetings and discussions, and iterative written drafts, a document is developed that describes the end state of joint air and missile defense employment and shortfalls that must be overcome to reach it. That concept forms the basis for developing an operational architecture which in essence is a hierarchical listing of mission tasks that must be accomplished to execute air and missile defense. The Operational Architecture provides a common lexicon and conceptual structure that can be used

across the Services to delineate what tasks a specific weapon systems must be capable of based on its role in the air and missile defense mission. The architecture does not specify what equipment should be used to conduct a task, only what tasks must be completed to enable joint employment. It is a necessary first step in order to develop the systems architecture which does specify the hardware and software that will be used for each task. This assortment of documents provides the necessary framework and structure the Services need to be able to build joint systems that enable the warfighter to have a plug and fight capability across the Services.

The following example may help explain this process. Today's surface-to-air missiles (SAMs) have very long fly-out ranges. In order to engage a target the SAM needs a radar to detect and track that target and provide tracking information to the missile. Historically, SAMs have their own organic radar positioned side by side with it, like the Patriot and Aegis weapon systems. Unfortunately, that means that in many cases, and especially for low altitude targets, the SAM's fly-out range is well beyond where its organic radar can see. To regain that lost range, another radar that is closer to the target can be used as a surrogate for the SAM's organic radar. The closer radar, which can be airborne and from another Service, digitally replaces the SAM's organic radar track. The SAM is now able to fly-out to its maximum range. One of the desired end states in the current operational concept is to be able to have an Army radar provide the target tracking data to a Navy SAM to engage low altitude cruise missiles beyond the Navy radar's line of sight. However, before that happens there must be agreement that there is a need (Requirement) for this capability against low altitude threats; the idea of jointly engaging needs to be described in operational terms (Operational Concept); a list of tasks to be executed must be determined and documented (Operational Architecture); and identification of what hardware and software is needed must be compiled (Systems Architecture). The lynchpin in the process is

developing it all jointly so that regardless of which Service the SAM or radar is from the capability is there to complete the engagement.

We have found that using a roadmap is the best method to bring these disparate but related pieces of information together. In close coordination with the Services and combatant commands, we have built an IAMD Roadmap which identifies a way forward for developing, and ultimately fielding, joint capabilities described in the operational concept/architecture. The purpose of IAMD Roadmaps is to enhance senior leader abilities to make better-informed and timely decisions. The Roadmap examines capabilities of the Service's individual systems within a Family-of-Systems context and projects how these systems will contribute to achieving desired Joint capabilities. Specifically, the JROC-approved IAMD Roadmap Version 3 defined Air and Cruise Missile Defense (ACMD) capabilities that will enable the warfighter to employ Service specific and Joint IAMD capabilities within an integrated Joint Engagement Zone. Additionally, Version 3 addresses the Wide Area Air Surveillance (WAAS) challenges for the defense of the homeland against air and cruise missile threats and includes a Ballistic Missile Defense (BMD) Appendix. Further, IAMD Roadmap Version 3 made recommendations which influenced Program Review (PR)-11 studies and will inform Program Objective Memorandum (POM)-12 budget planning. The JROC accepted the Roadmap recommendations for action and requested that JIAMD return to the JROC to provide an update on the status of those recommendations, an assessment of kill chains that cross Service lines, and Service implementation of IAMD Roadmap in POM 12. Future IAMD Roadmaps will be developed in time to support budget decisions and influence guidance for developing the force.

The Department has documented the operational needs for air defense in Joint Capability Documents and in the Prioritized Capabilities List for ballistic missile defense, and JIAMD has

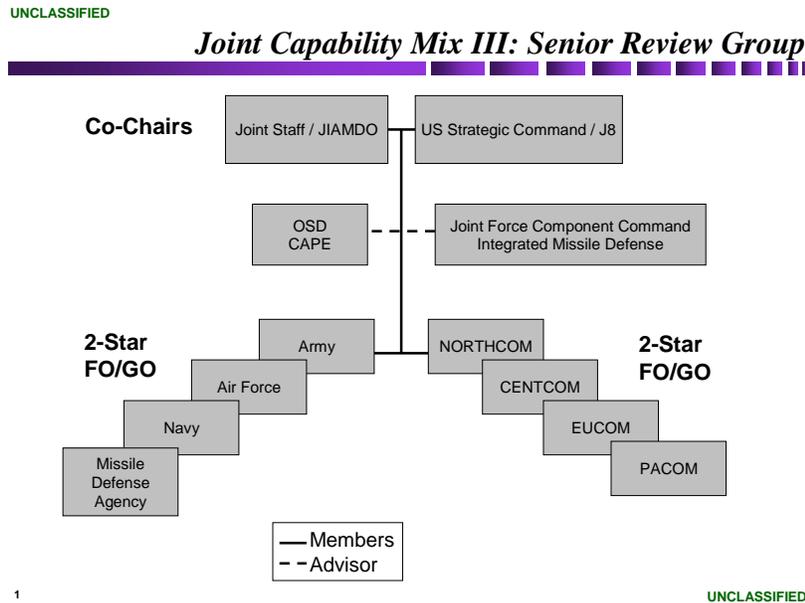
published the Operational Concept and Operational Architecture. A System Architecture as well as the next version of the Integrated Air and Missile Defense Roadmap is in development.

Assessing Operational Architectures and Operating Concepts

A concurrent responsibility for the Joint Integrated Air and Missile Defense Organization is assessing and validating operational concepts and architectures, and helping combatant commands and Services define and refine requirements. This is performed primarily through studies and analyses and modeling and simulation. Study activities vary from inventory analysis to examinations of surveillance coverage and options for various mixes of surveillance sensors. A ballistic missile defense study is illustrative of this area. JIAMDO recently completed an inventory analysis, Joint Capability Mix (JCM) Study, in support of US Strategic Command. They had requested a study to determine what the warfighter requirement was for upper tier interceptors for ballistic missile defense. The information was needed to support production and budget decisions. Working with the combatant commands, the Services, and the Missile Defense Agency, JIAMDO was able to quantify how many interceptors were needed and the affect on warfighter capability. The results were used to support recent programming decisions on missile defense. 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 all the combatant commands.

With the advent of the Phased Adaptive Approach (PAA) 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 be applied in the different areas of responsibility of the combatant commanders, and each will have their own needs for how to

accomplish their ballistic missile defense responsibilities. In order to integrate these needs across the Department, we are the initial stages of conducting the next round of analysis in this area with Joint Capability Mix III, which we are targeting for completion about this time next year. I have included a graphic on the Senior Review Group of the study to illustrate the inclusive approach we use for our analysis.



Modeling, simulation, and wargames are also used for analysis. A centerpiece of JIAMDO’s analysis is the Nimble Fire modeling and simulation activity. Nimble Fire is a U.S. classified operator-in-the-loop simulation where Air Force, Navy, Marine Corps, and Army operational personnel come together to execute joint air and missile defense missions. The events are structured to allow operational personnel to employ as they deem appropriate and the data we obtain is used to define and refine capability gaps, requirements, concepts, and in some instances employment techniques. It is a fully functional joint architecture capable of executing current and future concepts with operationally representative positions for Aegis, Patriot, AWACS, E-2, F/A-18, F-15, F-22, and JLENS among others. The simulation can conduct distributed operations to U.S. and overseas military locations and annually executes a combined

air, cruise missile, ballistic missile defense event in conjunction with MDA's Missile Defense Integrated Operations Center simulation at Colorado Springs. Analysis events are based on combatant command war plans and routinely have participants from the commands in the operational positions. Results are out-briefed to the combatant command as well as the Services and agencies. Nimble Fire is a one of a kind capability that has proven to be invaluable in analyzing concepts and requirements.

Two of the premier ballistic missile defense wargames, Nimble Titan, and the Ballistic Missile Defense System (BMDS) Wargame, are not conducted by JIAMDO, but JIAMDO provides analytical support and coordinates combatant command participation and input. Nimble Titan is sponsored by US Strategic Command and led by the Joint Force Component Command, Integrated Missile Defense (JFCC IMD). It is a policy and military wargame designed to assess and evaluate coalition and allied participation in missile defense. U.S. and international missile defense experts from both ministries of foreign affairs and ministries of defense take part in the events. Eight nations currently participate with more countries to be added in 2012. Insights from these wargames allow the U.S. and its partners to identify potential policy and military issues such as command and control, information sharing, and coalition decision making.

The BMDS Wargame, sponsored by the Missile Defense Agency (MDA), is a U.S. only classified tactical level simulation that brings together warfighters and developers to work collaboratively to examine how to fight the future ballistic missile defense system. This wargame explores areas such as shot doctrine, sensor control, interceptor inventory management, and force employment. JIAMDO provides development, planning, execution, and analytic support for these wargames. We also leverage findings from these events to support other

analyses, and used the shot doctrine developed during the BMDS wargame in the models for the JCM studies.

JIAMDO and the North Atlantic Treaty Organization

Closely associated with combatant command relationships are the NATO responsibilities of JIAMDO. The Director, JIAMDO is the U.S. Representative to the NATO Air Defense Committee (NADC). In this role the Director is responsible for addressing air and missile defense related issues in NATO. The Director drafts U.S. positions for NATO, and coordinates them with other U.S. stakeholders. The Director's unique position allows insight into policy and military issues from both a U.S. and coalition point of view, and enables JIAMDO to understand and address tactical level integration of coalition partners in analysis and studies, and during the development of employment concepts. In this regard I have had the privilege of working with the NATO staff and appearing before the North Atlantic Council to discuss the application of the Phased Adaptive Approach in Europe and the potential for regional missile defense capability in a NATO context.

Conclusion

In my opinion JIAMDO is uniquely and correctly positioned and manned to provide the kind of support the Department needs to meet the President's air and missile defense objectives. The Department has recognized that air and missile defense is a complex mission area and has committed to joint warfighting. JIAMDO is part of that commitment and we are working hard to ensure that warfighter needs are met. Thank you for your time, and I look forward to answering your questions.