

Statement

By

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Ballistic Missile Defense

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Mr. Chairman, distinguished members of the committee, I am pleased to have this opportunity to speak to you about the Ballistic Missile Defense System test program. I will cover four areas. First, I will recap the Missile Defense Agency, or MDA, test accomplishments during the past year. Second, I will discuss organization and philosophy changes within MDA. Third, I will give you a status of compliance with test requirements prescribed in recent National Defense Authorization Acts. Fourth, I will highlight future challenges facing the Ballistic Missile Defense System, or BMDS test program.

The MDA testing program during 2005 was adequate and appropriate to the developmental maturity of the BMDS.

- 1. The results of ground tests demonstrated that integration, interoperability, tactics, doctrine, and procedures, were adequate to increase confidence in these aspects of the system.**
- 2. For the first time, MDA flew a Raytheon Exoatmospheric Kill Vehicle integrated onto an Orbital Sciences booster. While the flight was successful, it did not evaluate the fixes to the ground support system that caused the previous flight test launch failures. Plans are to demonstrate the ground system fixes in subsequent flight-testing.**
- 3. The flight of threat representative targets across the search and track volumes of the Cobra Dane and Beale Early Warning Radars demonstrated their capability to provide target acquisition, tracking, and cueing data. MDA executed an operationally realistic test scenario that provided significant information regarding the Cobra Dane capabilities and limitations. MDA also demonstrated they could successfully launch a long-range threat representative target from an air platform.**
- 4. The Aegis Ballistic Missile Defense System completed two intercept missions with the new SM-3 missile. One of these flights included an intercept of a separating target.**
- 5. The Airborne Laser completed the passive phase of flight test of the Beam Control/Fire Control system, and completed the integration and operational demonstration of six integrated Chemical Oxygen Iodine Laser modules.**

6. **The Terminal High Altitude Area Defense system, or THAAD, executed its first flight test in five years. It flew its redesigned missile on a non-intercept test to demonstrate performance and measure interceptor kinematics.**
7. **Last year, two new sensors completed integration and some combined developmental and operational testing. The Forward-Based X-band Radar-Transportable, or FBX-T, demonstrated its ability to track long-range ballistic missile launches. The Sea-Based X-band radar completed integration testing in the Gulf of Mexico and has arrived in Hawaii to begin its checkout and integration into the BMDS test bed.**

The results of the integrated ground tests, coupled with the success of other element-level ground and flight test events, indicate the BMDS is maturing.

General Obering implemented several changes in organization and test philosophy during the past year. These changes more tightly integrate the developers, war fighters, and operational testers. They should also better integrate the system engineering functions and the test and evaluation functions within MDA. These changes, coupled with improvements in test planning, execution, and analyses, should result in better definition of data requirements and better, more efficient test execution.

As part of re-engineering his agency, General Obering established the Responsible Test Organization and Combined Test Force under the leadership and direction of his Deputy for Test and Assessment. The Combined Test Force will plan and execute tests, and collect and analyze data that will populate a database to support the technical and operational evaluations of BMDS performance. The Combined Test Force will include test personnel from each of the BMDS elements and the Operational Test Agencies.

With the support of General Obering, I have commissioned the Institute for Defense Analyses to examine and recommend a construct that integrates the operational testers into the Combined Test Force. The goal is to maintain the operational testers' independence and credibility while economizing resources, eliminating duplication of effort, and

supporting Combined Test Force mission and objectives. General Obering and I have also asked the Institute to investigate and recommend how to best integrate each stake holder's assessment needs into the test planning, execution, data collection, analysis, and evaluation processes. This should further streamline the test and evaluation planning and execution process, while ensuring all stakeholders efficiently and effectively meet their objectives.

Along with these organizational changes, MDA and the operational test community have agreed on an integrated test planning approach for future BMDS Blocks. Beginning with Block 2006, MDA, the joint operational test agency, and my office will develop an integrated, "evaluation-driven" test plan. This test planning philosophy brings discipline and structure to planning Block testing based upon overall system evaluation needs. It does this while concurrently addressing individual element test requirements. This approach should increase the quantity and quality of data while fostering the efficient use of test resources. It will also enhance efforts to address priority issues, such as verification, validation, and accreditation of models and simulations.

Over the last few years, Congress has asked MDA and my office to accomplish several specific initiatives with regard to operational testing of the BMDS. The Fiscal Year 2004 National Defense Authorization Act required operationally realistic testing of the BMDS. This past year, MDA conducted numerous ground tests, war games, and capability demonstrations using trained war fighters to operate the systems. These exercises included fully integrated ground and simulated missions designed by the operational testers and war fighters. This year's update to the Integrated Master Test Plan incorporates greater operational realism in the areas of increased war fighter involvement in flight tests; more end-to-end system testing; use of operationally representative missiles; employment of operational tactics, techniques, and procedures; and inclusion of more complex countermeasures. Incorporating trained war fighters into the testing program has added to the operational understanding of the capabilities, limitations, and maturity of the BMDS.

In Fiscal Year 2005, Congress required the MDA to conduct a realistic operational test of the BMDS. Following two launch failures in the Ground-based Midcourse Defense system and recommendations from two independent review teams, General Obering restructured the flight test program. Flight-testing to date has not yet reduced the risk to the point where General Obering is ready to execute an operationally realistic flight test. Under the restructured program, MDA plans three operationally realistic flight tests later this year.

In Fiscal Year 2006, Congress required the operational test community to plan and conduct an operational test of the capability provided by each block of the BMDS beginning with Block 2006. I have taken action to begin this effort involving not only the operational test community, but also the war fighters and MDA. When the evaluation plan is finished, MDA will include these tests in the next revision of the Integrated Master Test Plan.

The complexity of the BMDS is increasing. Elements are maturing and being integrated into the system. Consequently, testing the BMDS is becoming more challenging as the Agency adds elements and capability. Testers must assess performance and reliability during concurrent test and operations of a layered BMDS. Integration of the BMDS elements and sensors that are still maturing with operational legacy systems is a difficult task. Fusing the data that each element provides into a single, unambiguous operational picture is a significant software development, integration, and testing challenge. Range safety and environmental restrictions limit intercept geometries to only a few scenarios. Meeting each of these challenges is a big task – one that requires a series of well-planned ground and flight tests.

Over the long term, MDA should incrementally develop a capability to support concurrent testing and operations, including simulation over live testing, to speed up the process. This is similar to how DoD upgraded and tested Cheyenne Mountain without interfering with operations. When developed, this capability will provide an alternative

means for system test and evaluation to characterize operational effectiveness and suitability using actual hardware and war fighters in the loop.

Mr. Chairman, in conclusion, MDA experienced a difficult year with its Ground-based Midcourse Defense system, but ended the year on several high notes. Element successes indicate they are progressing toward maturity. Last year, war fighters demonstrated they could operate the integrated ground system. The fact remains, however, that we ground test for discovery, but we must flight test to verify operational performance and validate simulations. Successful flight tests are the cornerstones for building confidence in the BMDS. War fighters must have confidence the system will defend on demand.

This concludes my opening remarks and I welcome your questions.