

**Statement by
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**Before the
Senate Armed Services Strategic Forces Subcommittee**

Ballistic Missile Defense Programs

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Mr. Chairman, Senators, ladies and gentlemen, I am pleased to have this opportunity to speak with you about the Ballistic Missile Defense System test program. As you requested, I will talk about the status of the major test activities, the establishment of criteria for operationally realistic testing mandated by Section 234 of the 2005 National Missile Defense Authorization Act, and finally, our relationship with the Missile Defense Agency. Given the emphasis placed on fielding a limited defensive capability, my remarks will focus primarily on the two elements of Ballistic Missile Defense that are the principle contributors to this early capability – the Ground-based Midcourse Defense and the Aegis Ballistic Missile Defense systems. I will conclude with a few observations about progress towards testing the other theater defense systems.

I am encouraged by several developments over the last year. The Missile Defense Agency has constructed a testbed infrastructure and populated it with prototype missiles, six in Fort Greeley, Alaska; and two at Vandenberg Air Force base, California. The testbed is a major accomplishment and addresses much of the prior criticism from my office regarding the lack of operational realism for testing the Ground-based Midcourse Defense System. The testbed supports integration testing, ground testing, and flight testing in more operationally stressing test geometries, and permits military operators to control the system.

Early in development, capability demonstrations and flight testing focused on the feasibility of hit-to-kill technology. The Ballistic Missile Defense System testbed significantly improves the test infrastructure by providing operational assets to participate in more operationally realistic, end-to-end ground tests and flight test scenarios. Integrated ground testing is extremely important because it evaluates system interoperability and provides the best opportunity for assessing operator training and performance.

To define the testbed operational capabilities, the Missile Defense Agency established engagement sequence groups that describe defensive capabilities in terms of available

sensors, command and control networks, and interceptors. The first increment of this capability, called Limited Defensive Capability, is defined by four engagement sequence groups to evaluate defense of the 50 States against a limited attack from North Korea. This has been a useful way to coordinate system development, testing, activation exercises, and the development of tactics and procedures. Integrated ground test results to date indicate the testbed has the potential to defend against a limited attack, under certain conditions. However, difficulties in the flight test program have delayed the confirmation of intercept capability using the testbed.

Recent flight test failures in Integrated Flight Tests -13C and -14 indicate the need to further develop and mature the Ballistic Missile Defense System hardware and software. In Flight Test-13C, the system aborted the launch of a missile when its internal checks were not satisfied. However, the system performed well from target launch, until the system aborted the interceptor launch.

The operational testing community identified eighteen operational objectives that addressed operational realism in Integrated Flight Test-13C. Ten of these objectives were partially or completely met. Five objectives were not met due to interceptor abort. Sea conditions off Alaska prevented Aegis at-sea participation in the test, resulting in the deferral of three additional test objectives to later test events.

In Integrated Flight Test-14, the system performed as expected until it detected a problem in the launch sequence and again aborted the launching of the interceptor. One of the last steps in the launch sequence is to open the silo doors and retract the silo horizontal stabilizers. In this instance, sensors indicated that one of the three stabilizers had not retracted, causing the missile to abort launch.

Again of the eighteen test objectives addressing operational realism in Integrated Flight Test-14, ten objectives were partially or completely satisfied, three objectives were deferred due to lack of Aegis at-sea participation, and five objectives were not met due to the aborted interceptor launch.

In both Integrated Flight Tests-13C and -14, the target launched properly and presented a good target scene to the Ballistic Missile Defense System. However, from an operational mission perspective, these tests are failures. In an operational mission using the full-up testbed, it is possible that other missiles would have been available for the user to select and launch against the target. During integrated ground testing, the Missile Defense Agency simulated the capability of the system to fail-over to another missile.

After both Integrated Flight Tests-13C and -14, General Obering acted quickly to complete a root cause analysis, and incorporate fixes. He did not move forward with planning Flight Test-14 until they identified the root cause of the Flight Test-13C failure and verified the corrective action by both analyses and ground testing. General Obering is taking a prudent approach. I applaud his commitment to a “test-fix-test” philosophy that results in an event-driven test program.

It should be noted that PATRIOT PAC-3 and Aegis missile defense systems have been in development since the early 1990s and are now showing a maturity that has accrued from a comprehensive test-fix-test program. Conversely, the Ground-based Midcourse Defense System has only been in development about 7 years. These types of setbacks are not atypical for programs in development, and they contribute to maturing the system.

The Missile Defense Agency has made progress in documenting their test planning activities. In November 2004, my office approved the Missile Defense Agency’s Integrated Master Test Plan. We are working with the Missile Defense Agency and the Operational Test Agency team to increase operational realism through the test planning process, consistent with the maturity of the Ballistic Missile Defense System testbed. The Integrated Master Test Plan provides a framework for identifying and integrating test requirements from the Ballistic Missile Defense System elements, the Missile Defense Agency, the Operational Test Agencies, and my office. As a top-level planning document, it identifies criteria for operationally realistic testing that apply to system-level events. It also identifies a series of planned tests that should demonstrate the progress

towards developing and maturing the Ballistic Missile Defense System capability. The operational test community and the Missile Defense Agency have agreed on a test strategy and operational criteria to test the Limited Defense Capability in 2005, consistent with the maturity of the system.

In a developmental program that is employing a test-fix-test philosophy, test plans are necessarily fluid. My office and the Operational Test Agency team are working with the Missile Defense Agency to identify the impact of schedule changes on achieving the test objectives in the Integrated Master Test Plan. The maturity of the test bed will not yet support Title 10 end-to-end operational testing. For example, the Sea-Based X-Band Radar, which will not be available until the end of this year, is essential to provide mid-course discrimination and track updates. In addition the testbed is limited to one-on-one intercepts against target missiles, and the crew is limited in the amount of control they have over the system.

The Missile Defense Agency is reviewing the Live Fire testing programs of the Ballistic Missile Defense System elements in order to coordinate efforts and provide a consistent approach to assessing system lethality. This will ensure that data from earlier tests and analyses are used to maximum advantage, and that future efforts focus on the most critical data needs. As the Ballistic Missile Defense System moves through development and maturation, it is essential that we continue our commitment to understanding the lethality of the system against the threats associated with each increment of capability.

In September 2004, the Missile Defense Agency began a “shakedown” period, where they systematically activated and tested the integrated system to identify interoperability and performance problems. These exercises provided valuable insights and helped develop procedures for transitioning the system to alert. In order to support potential activation of the Ballistic Missile Defense System for Limited Defensive Operations, the Missile Defense Agency, the Operational Test Agency team, the Strategic Command, and DOT&E prepared independent assessments of the Ballistic Missile Defense System capability. While these assessments varied widely, the process of developing and

coordinating these analyses provided an excellent opportunity to exchange information and perspectives.

The Aegis Ballistic Missile Defense System is an important element of the test bed and contributes to the Limited Defensive Capabilities. The first flight test in which Ground Based Interceptors will engage a target using Aegis track data, is planned later this year. The Aegis Ballistic Missile Defense System is making progress in demonstrating end-to-end capability to defeat short-range ballistic missiles. The Aegis Ballistic Missile Defense element has demonstrated that it can intercept a unitary, short-range target in the ascent and descent midcourse phases of flight. The operational realism of the Aegis test program has been steadily increasing. The Navy Operational Test Force has provided observations on operational issues during early developmental tests and have introduced more operational realism into recent tests. In the last two flight tests, while on patrol the Aegis operators successfully engaged the target without prior information about the target launch time and direction.

Other elements of the Ballistic Missile Defense System clearly reflect the success of the Missile Defense Agency's "test-fix-test" philosophy and willingness to restructure program goals when appropriate. In early 2004, the Missile Defense Agency recognized the major technical challenges still faced by the Airborne Laser program and restructured the program to focus on developing and demonstrating specific technical goals annually, instead of pursuing future development initiatives. This resulted in the successful "first light" of the high-energy laser through all six modules in the ground aircraft mockup system integration laboratory. It also resulted in the successful first flight of the aircraft with the laser turret, and beam control and fire control installed.

The Theater High Altitude Terminal Defense system also accomplished extensive component and subsystem testing during 2004. The launcher demonstrated the ability to roll on/roll off a C-17 transport aircraft. The program successfully performed a short hot launch of a missile round loaded with only a portion of the normal amount of propellant. This test verifies the firing circuits and increases confidence in the success of the first

flight-test later this year. A new system radar arrived at White Sands Missile Range in March 2004 for testing. The radar has successfully tracked targets of opportunity, including PATRIOT PAC-3 flight test missiles and targets.

The performance of the Joint Operational Test Agency team is nothing less than outstanding. Their continuous involvement and characterization of the Ballistic Missile Defense System provides important insight into its operational capability. The entire operational test and evaluation community has access to all test planning and execution meetings, test data, and data analyses. General Obering and I meet routinely, and my staff coordinates daily with the Missile Defense Agency and the element offices. However, the Missile Defense Agency has no operational testing planned, so my role is limited to providing General Obering advice as to the operational realism of the developmental testing. I also provide an annual assessment report on the past years' testing activities and demonstrated system capabilities to the Department and Congress each February, as required by law.

In summary, General Obering is executing an event-driven, test-fix-test program. Test planning that addresses the requirement in the FY 2005 National Defense Authorization Act for an operationally realistic test in FY05, is ongoing. The operational testing community is working with the Missile Defense Agency to incorporate operational objectives and realism into the test plan for this event.

That concludes my opening remarks and I welcome your questions.