

Terminal High Altitude Area Defense (THAAD)

SUMMARY

- The Terminal High Altitude Area Defense (THAAD) element radar and Command, Control, Battle Management, and Communications (C2BMC) Test Bed hardware are deployable in contingency operations.
- MDA plans to deliver hardware for a single THAAD fire unit in FY09.
- MDA and the Army are developing a plan to transition the first fire unit to the Army.
- There are currently no plans for dedicated operational testing of the THAAD element.
- The flight-test program delays are due to programmatic issues and frequent budget reprogramming actions. Also contributing to the delay was a factory explosion in 2003 that forced the program to seek and qualify a second source for rocket motor manufacturing.



THAAD is a mobile ground-based element of the terminal defense segment of the BMDS.

SYSTEM DESCRIPTION AND MISSION

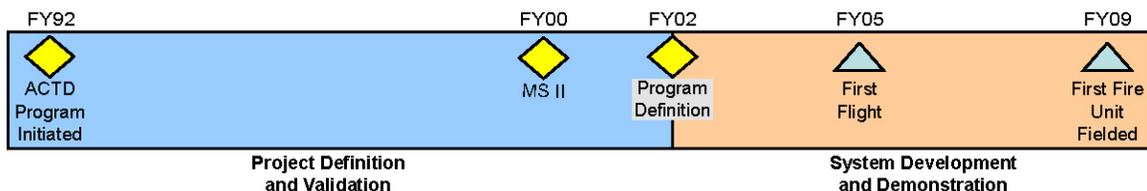
THAAD is a mobile ground-based element of the terminal defense segment of the BMDS. It will protect forward-deployed military forces, allies, and population centers from short-, medium-, and intermediate-range ballistic missile attacks. The system consists of four segments:

- Missile
- Launcher
- Radar
- Battle Management/Command, Control, Communications and Intelligence

The THAAD missile uses a kinetic energy kill vehicle to intercept incoming ballistic missile warheads in the late midcourse or terminal phases of their trajectories - either outside the atmosphere (exoatmospheric intercepts) or very high in the atmosphere (endoatmospheric intercepts).

The THAAD element continues to mature. The program completed the Element Critical Design Review in December 2003. White Sands Missile Range received THAAD radar in March 2004, where it is tracking targets of opportunity. The Missile Production Facility in Troy, Alabama, activated in May 2004, has started producing and testing the pathfinder missile. MDA conducted an initial readiness review for Flight-test – 1 (FT-1) in June 2004.

TEST AND EVALUATION ACTIVITY



The THAAD program accomplished extensive component level testing in FY04. Missile assembly testing progressed well. The THAAD launcher demonstrated the ability to roll-on/roll-off a C-17. MDA performed a Short Hot Launch test

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using missile rounds that contain only a fraction of the normal missile propellant. This test evaluated the new missile egress out of a new canister and launch environments. The test also provided data to address range safety issues associated with firing a missile round. The Short Hot Launch test also provided data on the adequacy of the missile design, and increased confidence in the success of first flight-test, FT-1.

FT-1 is on schedule to launch in 3QFY05 at White Sands Missile Range. FT-1 will measure THAAD missile dynamic performance in a high endoatmospheric environment. FT-2, scheduled for 4QFY05, will demonstrate integrated THAAD system closed-loop operations and engagement functions against a simulated unitary target. MDA has scheduled two additional THAAD element flight-tests for early FY06 at White Sands Missile Range. The first BMDS flight-test event that THAAD will participate in is Flight Test THAAD 06-1, scheduled for 4QFY06, at the Pacific Missile Range Facility in Hawaii.

No integrated system-level testing occurred in FY04; however, the program conducted assembly level qualification testing in FY04. The program developed numerous ground test missiles to support various engineering and developmental test activities necessary to reduce flight-test risk. Production software development continues on two of the ground test missiles to support production and test at the Troy Production Facility. Integration testing between the missile and Launch and Test Support Equipment continues at the Software Integration Laboratory to surface and correct integration issues before moving to the range to perform these functions. Extensive contractor testing of missile and radar components continues.

TEST AND EVALUATION ASSESSMENT

Several issues have affected the THAAD test program progress:

- Budget reprogramming actions have resulted in test program restructuring and delays.
- The program successfully demonstrated the redesigned missile canister in an October 2004 Short Hot Launch test.
- The program postponed the 56-inch missile drop test from 1QFY05 to 1QFY06 to support the fielding approach. In the interim, the program will move the missile on the transporter, which has already demonstrated aircraft roll-on, roll-off to the Air Force.
- Due to funding issues, delayed development of the prime power unit for the radar requires the use of other generators during testing at White Sands Missile Range. The program is investigating the possibility of using type-classified generators from the Air Force or the Army to field the THAAD Radar.
- The contractor changed the fuel for the Divert and Attitude Control System to improve stability. This change caused the system to fail the original cold temperature specification.

Target development continues at a defined pace. Of the four target types planned for testing, MDA has approved one, has made progress approving another, and has delayed approving the last two until range safety issues at the Pacific Missile Range Facility are resolved. MDA is examining various alternatives to provide flight-test realism.

It is uncertain how THAAD will transition to the Army. As a result, there are no plans at this time for operational testing of the THAAD element or an initial THAAD fire unit. Operational testing is necessary to improve understanding of THAAD performance, military operational capabilities, and to justify procurements beyond the first tactical fire unit.