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DEFENSE ACQUISITIONS

Charting a Course for Improved Missile Defense Testing

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Highlights

Highlights of GAO-09-403T, a testimony before the Subcommittee on Strategic Forces, Committee on Armed Services, House of Representatives

Why GAO Did This Study

The Missile Defense Agency (MDA) has spent about $56 billion and will spend about $50 billion more through 2013 to develop a Ballistic Missile Defense System (BMDS). This testimony is based on two reviews GAO was directed to conduct in 2008. In addition to our annual review assessing the annual cost, testing, schedule, and performance progress MDA made in developing BMDS, we have also reported on MDA's targets program. In this testimony we discuss (1) the productivity of MDA's recent test program, (2) the consequences of the testing shortfalls, and (3) key factors that should be considered as MDA revises its approach to testing.

GAO assessed contractor cost, schedule, and performance; tests completed; and the assets fielded during 2008. GAO also reviewed pertinent sections of the U.S. Code, acquisition policy, and the activities of a new missile defense board.

What GAO Recommends

We have previously made recommendations to improve the MDA's testing and targets programs that include establishing a revised business case for providing targets for a robust flight test program as well as adding sufficient scope to tests to enable an assessment of the BMDS' suitability and effectiveness, but MDA only partially agreed. We also have a draft report that is currently with DOD for comment that includes additional recommendations regarding testing.

View GAO-09-403T or key components.
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What GAO Found

The scale, complexity, cost and safety associated with testing the missile defense system constitute a unique challenge for MDA, test agencies and other oversight organizations. This challenge is heightened by the fact that missile defense assets are developed, produced, and fielded concurrently. Overall, during fiscal year 2008, testing has been less productive than planned. While MDA completed several key tests that demonstrated enhanced performance of BMDS, all elements of the system had test delays and shortfalls, in part due to problems with the availability and performance of target missiles. GMD in particular was unable to conduct either of its two planned intercept attempts in fiscal year 2008. While it did subsequently conduct one in December 2008, it was not able to achieve all primary objectives because the target failed to release its countermeasures. As a result, aspects of the fielded ground-launched kill vehicles may not be demonstrated since no more flight tests have been approved. Target missiles continue as a persistent problem in fiscal year 2008 as poor target performance caused several tests to either fail in part or in whole.

Testing shortfalls have had several consequences. First, they have delayed the validation of models and simulations, which are needed to assess the system's overall performance. As a result, the performance of the fielded BMDS as a whole cannot yet be determined. Second, the production and fielding of assets has continued and in some cases has gotten ahead of testing. For example, enhanced Exoatmospheric Kill Vehicles will now be produced and delivered before they are flight tested. Third, MDA has relied on a reduced basis—fewer test, model, and simulation results—to declare capabilities as operational in the field.

MDA has undertaken a three-phase review of the entire BMDS test program that involves identifying critical variables that have not been proven to date, determining what test scenarios are needed to collect the data, and developing an affordable, prioritized schedule of flight and ground tests. This review, as long as it continues to involve test and evaluation organizations, appears to offer a sound approach for closing the gaps that exist between testing, modeling, and simulation. Critical to being able to implement the approach will be addressing the factors that have limited the productivity of the current test approach, such as the availability and performance of targets. An additional consideration in a new testing approach must be to ensure that assets are sufficiently tested before they are produced and fielded. An important consideration in this regard is for modeling, simulation, and testing events to be re-synchronized so that they properly inform decisions on producing, fielding, and declaring assets operational. Contingency plans could then be formed for adjusting the pace of these decisions should shortfalls occur in modeling, simulation, or testing. Because MDA has indicated implementation will take time, managing the transition may need to include reassessing the ambitious fiscal year 2009 test plan. In the mean time, MDA will have to be prudent in making decisions to produce and field assets.