



Highlights of [GAO-03-600](#), a report to the Ranking Minority Member, Subcommittee on Financial Management, the Budget, and International Security, Committee on Governmental Affairs, U.S. Senate

Why GAO Did This Study

A number of countries hostile to the United States and its allies have or will soon have missiles capable of delivering nuclear, biological, or chemical weapons. To counter this threat, the Department of Defense's (DOD's) Missile Defense Agency (MDA) is developing a system to defeat ballistic missiles.

MDA expects to spend \$50 billion over the next 5 years to develop and field this system. A significant portion of these funds will be invested in the Ground-based Midcourse Defense (GMD) element. To field elements as soon as practicable, MDA has adopted an acquisition strategy whereby capabilities are upgraded as new technologies become available and is implementing it in 2-year blocks.

Given the risks inherent to this strategy, GAO was asked to determine when MDA plans to demonstrate the maturity of technologies critical to the performance of GMD's Block 2004 capability and to identify the estimated costs to develop and field the GMD element and any significant risks with the estimate.

What GAO Recommends

GAO is recommending DOD (1) explore options to demonstrate effectiveness of the Cobra Dane radar and (2) establish procedures to help ensure data are reliable from MDA's monitoring system. DOD concurred with GAO's first recommendation and partially concurred with GAO's second.

www.gao.gov/cgi-bin/getrpt?GAO-03-600.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robert E. Levin at (202) 512-4841 or levinr@gao.gov.

MISSILE DEFENSE

Additional Knowledge Needed in Developing System for Intercepting Long-Range Missiles

What GAO Found

GMD is a sophisticated weapon system being developed to protect the United States against limited attacks by long-range ballistic missiles. It consists of a collection of radars and a weapon component—a three-stage booster and exoatmospheric kill vehicle—integrated by a centralized control system that formulates battle plans and directs the operation of GMD components. Successful performance of these components is dependent on 10 critical technologies.

MDA expects to demonstrate the maturity of most of these technologies before fielding the GMD element, which is scheduled to begin in September 2004. However, the agency has accepted higher cost and schedule risks by beginning integration of the element's components before these technologies have matured. So far, MDA has matured two critical GMD technologies. If development and testing progress as planned, MDA expects to demonstrate the maturity of five other technologies by the second quarter of fiscal year 2004.

The radar technologies are the least mature. MDA intends to demonstrate the maturity of an upgraded early warning radar in California in the first quarter of fiscal year 2005 and a sea-based radar in the Pacific Ocean in the fourth quarter of that year. Although MDA does not plan to demonstrate the maturity of the technology of the early warning radar in Alaska, which will serve as the primary fire control radar, through its own integrated flight tests, it may be able to do so through the anticipated launch of foreign test missiles.

MDA estimates that it will spend about \$21.8 billion between 1997 and 2009 to develop the GMD element. This estimate includes \$7.8 billion to develop and field the GMD Block 2004 capability. For example, the funds will be used to install interceptors at two sites, upgrade existing radars and testing infrastructure, and develop the sea-based X-band radar. We found that MDA has incurred a greater risk of cost growth because for more than a year the agency was not able to rely fully on data from its primary tool for monitoring whether the GMD contractor has been performing work within cost and on schedule. In February 2002, MDA modified the prime contract to reflect an increased scope of work for developing GMD. It was not until July 2003 that the agency completed a review to ensure that the data was fully reliable.