


GAO
 Accountability-Integrity-Reliability
Highlights

Highlights of [GAO-04-48](#), a report to the Subcommittee on Strategic Forces, Committee on Armed Services, U.S. Senate

Why GAO Did This Study

In 1996, the Department of Defense (DOD) initiated the Space-Based Infrared System (SBIRS) to provide greater long-range ballistic missile detection capabilities than its current system. The initial SBIRS architecture included “High” and “Low” orbiting space-based components and ground processing segments.

SBIRS has been technically challenging, and in October 2001, SBIRS Low was transferred from the Air Force to the Missile Defense Agency. The Air Force expected to field SBIRS High by 2004, but numerous problems have led to schedule overruns. In the fall of 2001, DOD identified potential cost growth of \$2 billion.

To determine the causes of the significant cost growth, DOD convened an Independent Review Team. In August 2002, the Air Force restructured the program to address the findings of the team’s assessment. Our report (1) describes the key elements of the restructured program and (2) identifies problems and potential risks still facing the program.

What GAO Recommends

GAO is recommending that DOD convene a task force to assess the restructured program with an emphasis on providing concrete guidance for the program to address its underlying problems. DOD agrees that another review of the program is warranted.

www.gao.gov/cgi-bin/getrpt?GAO-04-48.

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

DEFENSE ACQUISITIONS

Despite Restructuring, SBIRS High Program Remains at Risk of Cost and Schedule Overruns

What GAO Found

In an effort to get the SBIRS High program on track, the most recent program restructuring provided contractor incentives and oversight measures, as recommended by the Independent Review Team. Under the current contract, the prime contractor’s award fees are now tied to the incremental delivery of specific system capabilities. DOD also modified the contract to prescribe tighter management controls, improve reporting of contractor information, and add formal review processes by DOD management. This increased oversight is intended, in part, to minimize further changes in requirements and improve management of software development, both of which have been particularly problematic. The restructuring also added funding and other resources to the program and extended the scheduled delivery of certain components. At the time of the restructuring, the Air Force believed the modified contract established an executable schedule, a realistic set of requirements, and adequate funding.

However, the restructuring did not fully address some long-standing problems identified by the Independent Review Team. As a result, the program continues to be at substantial risk of cost and schedule increases. Key among the problems is the program’s history of moving forward without sufficient knowledge to ensure that the product design is stable and meets performance requirements and that adequate resources are available. For example, a year before the restructuring, the program passed its critical design review with only 50 percent of its design drawings completed, compared to 90 percent as recommended by best practices. Consequently, several design modifications were necessary, including 39 to the first of two infrared sensors to reduce excessive noise created by electromagnetic interference—a threat to the host satellite’s functionality—delaying delivery of the sensor by 10 months or more. Software development underlies most of the top 10 program risks, according to the contractor and the SBIRS High Program Office. For example, testing of the first infrared sensor revealed several deficiencies in the flight software involving the sensor’s ability to maintain earth coverage and track missiles while orbiting the earth. Program officials stated that they are coordinating the delivery of the first sensor with the delivery of the host satellite to mitigate any schedule impacts, but they agreed that these delays put the remaining SBIRS High schedule at risk.

Illustration of geosynchronous earth-orbiting satellite



Source: Lockheed Martin.