



Highlights of [GAO-06-1129T](#), a testimony before the Committee on Science, House of Representatives

GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITES

Additional Action Needed to Incorporate Lessons Learned from Other Satellite Programs

Why GAO Did This Study

The National Oceanic and Atmospheric Administration (NOAA) plans to procure the next generation of geostationary operational environmental satellites, called the Geostationary Operational Environmental Satellites-R series (GOES-R). This new series is considered critical to the United States' ability to maintain the continuity of data required for weather forecasting through the year 2028.

GAO was asked to summarize and update its report previously issued to the Subcommittee on Environment, Technology, and Standards—*Geostationary Operational Environmental Satellites: Steps Remain in Incorporating Lessons Learned from Other Satellite Programs*, GAO-06-993 (Washington, D.C.: Sept. 6, 2006). This report (1) determines the status of and plans for the GOES-R series procurement, and (2) identifies and evaluates the actions that the program management team is taking to ensure that past problems experienced in procuring other satellite programs are not repeated.

What GAO Recommends

In our report, we make recommendations to the Secretary of Commerce to improve NOAA's ability to effectively manage the GOES-R procurement. In written comments, the Department of Commerce agreed with the recommendations and identified plans for implementing them.

www.gao.gov/cgi-bin/getrpt?GAO-06-1129T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact David Powner at (202) 512-9286 or pownerd@gao.gov.

What GAO Found

At the time of our review, NOAA was nearing the end of the preliminary design phase of its GOES-R system—which was estimated to cost \$6.2 billion and scheduled to have the first satellite ready for launch in 2012. It expected to award a contract in August 2007 to develop this system. However, recent analyses of the GOES-R program cost—which in May 2006 the program office estimated could reach \$11.4 billion—have led the agency to consider reducing the scope of requirements for the satellite series. Since our report was issued, NOAA officials told GAO that the agency has made a decision to reduce the scope of the program to a minimum of two satellites and to reduce the complexity of the program by canceling a technically complex instrument.

NOAA has taken steps to implement lessons learned from past satellite programs, but more remains to be done. Prior satellite programs—including a prior GOES series, a polar-orbiting environmental satellite series, and various military satellite programs—often experienced technical challenges, cost overruns, and schedule delays. Key lessons from these programs include the need to (1) establish realistic cost and schedule estimates, (2) ensure sufficient technical readiness of the system's components prior to key decisions, (3) provide sufficient management at government and contractor levels, and (4) perform adequate senior executive oversight to ensure mission success. NOAA has established plans to address these lessons by conducting independent cost estimates, performing preliminary studies of key technologies, placing resident government offices at key contractor locations, and establishing a senior executive oversight committee. However, many steps remain to fully address these lessons (see table). Until it completes these activities, NOAA faces an increased risk that the GOES-R program will repeat the increased cost, schedule delays, and performance shortfalls that have plagued past procurements.

Key Lessons Learned and the Activities Taken or Remaining to Fully Address Them

Lesson learned	Actions taken or under way	Actions remaining
Establish realistic cost and schedule estimates	<ul style="list-style-type: none"> Obtaining multiple independent cost estimates Conducting risk analysis of schedule estimates 	<ul style="list-style-type: none"> Ensuring objectivity when reconciling alternative estimates
Ensure sufficient technical readiness of the system's components prior to critical decisions	<ul style="list-style-type: none"> Conducted preliminary studies of key technologies and components 	<ul style="list-style-type: none"> Ensuring sufficient technical maturity before proceeding to production
Provide sufficient management of contractors and subcontractors	<ul style="list-style-type: none"> Increased presence at contractor sites Plan to increase number of system engineers Plan to hire three specialists in earned value 	<ul style="list-style-type: none"> Assessing the number of earned value specialists needed commensurate with increased acquisition activities
Perform effective executive-level oversight	<ul style="list-style-type: none"> NOAA's program management council meets regularly to oversee project 	

Source: GAO analysis.