



Report In Brief

APRIL 25, 2013

Background

One of the primary functions of NOAA's National Environmental Satellite, Data and Information Service (NESDIS) is to acquire and manage the nation's operational environmental satellites. One type of satellite NESDIS operates is the geostationary operational environmental satellites (GOES)—which orbit approximately 22,300 miles above Earth, producing images every 15 minutes. They provide cloud, land, and ocean temperatures; monitor sun activities; and assist with search and rescue activities.

NOAA, in conjunction with the National Aeronautics and Space Administration (NASA), is developing the next generation of GOES satellites known as the GOES-R Series of four satellites (GOES-R, -S, -T and -U). The first satellite in the series, GOES-R, is scheduled for launch in October 2015.

Why We Did This Review

The GOES-R program is a mission-critical acquisition and development effort with a life-cycle cost of \$10.9 billion. The program engages multiple contractors and as it prepares for its integration and test phase, close management attention is required. The increasing risk associated with meeting key milestones in preparation for the first satellite's launch readiness date of October 2015 necessitated our review.

Our audit sought to assess (1) the adequacy of contract management and administration and (2) the effectiveness of management's direction, monitoring, and collaboration for development of select components of the GOES-R program.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Audit of Geostationary Operational Environmental Satellite—R Series: Comprehensive Mitigation Approaches, Strong Systems Engineering, and Cost Controls Are Needed to Reduce Risks of Coverage Gaps

OIG-13-024-A

WHAT WE FOUND

We found that:

NOAA needs to develop a comprehensive plan to mitigate the risk of potential launch delays and communicate to users and other stakeholders changes that may be necessary to maintain the first GOES-R satellite's launch readiness date. Schedule slips and a potential reduction in testing activities have raised concerns about the satellite's readiness to launch. Cost increases and budget shortfalls may also delay development and launch. Further, scope reductions and delays are diminishing the satellite's operational capabilities.

Program systems engineering has been strengthened; however, early in system development, it contributed to ground system schedule compression and increased costs. NOAA accepted a core ground system development approach that was not flexible, resulting in increased costs. To re-plan the core ground system increases schedule risks. A lack of program systems engineering leadership further prolonged the coordination problem.

NOAA needs to ensure NASA's evaluation of contractors' proposals and subsequent plans is effective in assessing technical readiness to reduce delays and cost increases. Contract award prices were significantly less than program estimates. The technical evaluation of an important contractor-designed instrument was inadequate. And award fees did not effectively incentivize exemplary performance or sufficient cost control.

NOAA lost the opportunity to negotiate on significant costs for ground system contract changes because it did not finalize these changes in a timely manner. The lack of undefinitized contract action (UCA) time limit and cost incurred tracking policy—as well as the UCAs' large scope—led to definitization delays. Further, the high UCA cost limits create disincentive for timely definitization.

WHAT WE RECOMMEND

We recommend that the NOAA Deputy Under Secretary for Operations:

1. Develop a comprehensive set of tradeoff approaches to mitigate launch delays and communicate approaches to stakeholders and users.
2. Keep stakeholders and users informed of tradeoffs made to meet the launch date.
3. Direct NESDIS to report periodically on the adequacy of program systems engineering integration and NASA systems engineering support.

We also recommend that the NOAA Assistant Administrator for Satellite and Information Services ensure that NASA:

4. Effectively validates contractors' proposals and subsequent plans, to verify that technical designs meet readiness requirements per NASA standards.
5. Modifies contract award-fee structures to reduce award fee percentages and clearly articulates how scores should be adjusted based on the magnitude of cost overruns.
6. Adjusts future award fees to be more commensurate with contractor performance.

We further recommend that the NOAA Deputy Under Secretary for Operations:

7. Direct the development of a policy for managing undefinitized contract actions to definitize change orders in the shortest practicable time.