



Report In Brief

U.S. Department of Commerce Office of Inspector General

November 20, 2007



Why We Did This Review

NOAA and NASA are 7 years into development of the next series of Geostationary Operational Environmental Satellites (GOES)—dubbed GOES-R. For the first time, NOAA, rather than NASA, has the lead role in GOES-R's program management and acquisition, thus giving the Department direct oversight authority for both the ground and space segments. NOAA decided to use a new approach for GOES-R: award of a single prime contract for the space and ground segments. This was a significant departure from previous GOES acquisitions, which used separate contracts for the segments and NASA as the systems integrator. This change,* coupled with the Department and NOAA's expanded oversight and management roles, added risk to an already highly complex undertaking. We sought to determine whether the Department and NOAA have established effective oversight mechanisms for handling their expanded roles and are leveraging NASA's oversight expertise.

*In response to problems with another satellite acquisition, NOAA ultimately reverted to its traditional approach, described below.

Background

Geostationary Operational Environmental Satellites have provided the United States with critical meteorological data since 1975. The GOES program is fully funded by NOAA, but development is shared with NASA. Traditionally, NOAA has established system requirements, acquired the ground systems and algorithms, and operated the satellite, while NASA acquired the spacecraft, instruments, and launch vehicle and services. The instruments, satellite, and ground systems have been developed through separate contracts, with the government responsible for system-level integration.

View the full report at
<http://www.oig.doc.gov/oig/reports/2007/OSE-18291.pdf>.

Office of the Secretary

Successful Oversight of GOES-R Requires Adherence to Accepted Satellite Acquisition Practices (OSE-18291)

What We Found

The life-cycle process for developing GOES-R omitted key features of accepted satellite acquisition processes, leaving GOES-R at risk for additional problems. Our findings are as follows:

Lack of accepted life-cycle process left oversight officials without sufficient program information for first key decision point review. Viewed by the Department and NOAA solely as a procurement milestone, key decision point B was held at a much earlier stage in the program's life cycle than prescribed by standard satellite acquisition processes and without the benefit of a comprehensive program assessment and independent reviews that are key to the NASA model. Department and NOAA officials therefore did not have thorough and accurate evaluations of cost, schedule, technological readiness, acquisition strategy, and risks. A subsequent independent assessment of the program confirmed escalating cost estimates, unacceptable risks, and a flawed acquisition strategy.

GOES-R plan needs additional key decision points. In NASA and DOD space acquisition processes, decision point C occurs at the completion of preliminary design, and a separate decision point D is conducted before the system is built. Although GOES-R is roughly 2 years from completing preliminary design and even further from being ready to build the first satellite, its final planned decision point—decision point C/D—is expected to occur soon. The purpose is to obtain Department authorization for releasing solicitations for the multibillion-dollar space and ground segment contracts. Additional key decision points are needed at the end of subsequent life-cycle phases to determine GOES-R's readiness to proceed.

Procedures for decision point reviews are inadequate. Commerce lacks adequate capacity and experience for effective oversight of space acquisitions and access to independent reviewers of its own. If the Department retains decision authority, it should consult directly with NOAA and NASA independent reviewers at each decision point to help identify any serious program weaknesses and determine the best path forward for GOES-R. In addition, both the Department and NOAA should use NASA Procedural Requirement (NPR) 7120.5D for satellite acquisition as guidance for these reviews.

We also found that NOAA has not adapted relevant NASA processes to GOES-R and the Department lacks procedures for reporting and approving major deviations from and changes to baseline.

What We Recommended

We made several recommendations to Department officials, including that they establish additional key decision point reviews and conduct them in a manner consistent with NPR 7120.5D, clearly delineate decision-making authorities for subsequent decision points, document and explain any decisions that differ from advice in the independent assessments, and establish thresholds and procedures for reporting and approving major changes or enhancements to GOES-R baselines.

We recommended that NOAA plan and document its approach for decision point C/D and subsequent decision points for which it receives decision authority, detail in the GOES-R management plan how NPR 7120.5D will be used for managing the overall program and ground segment, identify planned deviations from NPR 7120.5D, and describe the rationale for the deviations and any compensating mechanisms.