



Report In Brief

JUNE 17, 2014

Background

The Joint Polar Satellite System (JPSS) program was established in 2010 when the Administration chose to restructure the troubled National Polar-orbiting Operational Environmental Satellite System (NPOESS)—a tri-agency partnership among the Department of Defense, NOAA, and NASA—into separate civil and defense programs. JPSS currently supports the operation of one satellite and is developing and launching two, next-generation polar-orbiting satellites (JPSS-1 and JPSS-2) with new, more capable instruments to replace NOAA's legacy polar satellites.

Why We Did This Review

Developing next-generation environmental satellite systems is a top management challenge for the Department and NOAA. Given its national significance and large budget, we have conducted oversight of NOAA's JPSS since the Administration directed its establishment in 2010, after management and technical problems led to cost increases, schedule delays, and capability reductions for its predecessor program, NPOESS. This is our third audit report and fourth oversight product focused on JPSS.

Our objectives were to (1) monitor NOAA's progress toward establishing JPSS cost, schedule, and performance baselines; (2) assess ongoing development activities; and (3) review efforts to mitigate a potential data gap between Suomi National Polar-orbiting Partnership (Suomi NPP) and JPSS-1 satellites.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Audit of the Joint Polar Satellite System: To Further Mitigate Risk of Data Gaps, NOAA Must Consider Additional Missions, Determine a Strategy, and Gain Stakeholder Support

OIG-14-022-A

WHAT WE FOUND

We found that

JPSS Program Baselines Were Established After Department and NOAA Reduced System Capabilities to Lower the Life-Cycle Cost and Focus Its Missions, but Baselines May Be Revised to Mitigate Risk of Data Gaps. Significant changes introduced in NOAA's FY 2014 budget present concerns about coordination with new programs, potential schedule changes, and other cost issues. Also, the program's revised life-cycle cost estimate is more reliable than previous estimates, but opportunities for additional cost savings may arise. Finally, NOAA will evaluate options for additional missions, and the JPSS program will need to revise its formulation.

NOAA Leadership Deemed JPSS-1 Ready for the Next Phase of Development—but Technical, Schedule, and Programmatic Challenges Await. The JPSS-1 flight project currently has adequate schedule margins, but integration and test activities could diminish schedule margins and funding reserves. Delayed facility work complicated the scheduling of ground system upgrades, which added JPSS-1 development risk and resulted in prolonged operational use of inadequate security controls. And, despite master schedule uncertainties, the standing review board recommended approval of a JPSS-1 key decision point.

NOAA Has Begun Gap Mitigation Activities but Should Do More to Help Stakeholders Understand the Consequences of a Gap. The avoidance of gaps will depend upon whether on-orbit satellites continue to operate and the constellation's ability to tolerate unexpected failures. Stakeholders, and the JPSS program, would benefit were NOAA better able to communicate the consequences of an afternoon orbit weather data gap—in terms of the extent of expected forecast degradation, as well as the resulting economic costs.

WHAT WE RECOMMEND

We recommend that the NOAA Administrator

1. Establish reporting metrics to ensure adequate coordination among JPSS, Solar Irradiance, Data and Rescue (SIDAR), and NASA climate instrument programs for review at monthly Program Management Council meetings.
2. Ensure that JPSS-2 operations and sustainment costs beyond FY 2025 are delineated in stakeholder briefing materials about plans for additional missions.
3. Leverage Office of Acquisition Management (OAM)-led cost analysis expertise to explore cost savings opportunities in acquisitions beyond JPSS-2.
4. Ensure that stakeholders are provided formal documentation of NOAA's response to independent review team recommendations and its corresponding acquisition strategy.

We recommend that the NOAA Assistant Administrator for Satellite and Information Services

5. Ensure that stakeholders (including Congress) are provided updated information on the results and confidence level of the JPSS-1 mission's integrated master schedule.

We recommend that the NOAA Deputy Under Secretary for Operations

6. Direct appropriate NOAA entities to explain the effects of a potential afternoon orbit data gap in terms of degraded forecast hours and extrapolated economic costs, or conversely, the contribution to forecast accuracy and the economic benefits of afternoon orbit data.