

GAO Highlights

Highlights of [GAO-20-268](#), a report to congressional committees

Why GAO Did This Study

NSF supports the design, construction, and operations of major facilities projects—science and engineering research infrastructure such as telescopes and research vessels that typically have construction costs of at least \$70 million and may take many years to design and construct. The agency oversees the performance of each project against an authorized total project cost and schedule. NSF currently has four projects under construction at a combined authorized cost of \$1.6 billion and two additional projects in design. Prior GAO reports reviewed NSF's cost estimating and schedule policies, as well as project management expertise of its oversight workforce.

Senate Report 114-239 and House Report 114-605 included provisions for GAO to review NSF's major facilities projects. Among other objectives, this report (1) describes the cost and schedule performance of NSF's ongoing major facilities projects and (2) assesses the extent to which NSF addressed prior GAO recommendations related to its management of major facilities. GAO analyzed NSF policies and documents for projects in design and construction, interviewed agency officials, and compared NSF's processes to best practices identified in prior GAO work.

What GAO Recommends

NSF agreed with and has taken initial steps to address four open recommendations from GAO's prior work, including to revise policies for developing schedules and to ensure the sharing of lessons learned for major facilities projects. NSF needs to complete additional steps to fully address the recommendations.

View [GAO-20-268](#). For more information, contact John Neumann at (202) 512-6888 or neumannj@gao.gov.

April 2020

NATIONAL SCIENCE FOUNDATION

Cost and Schedule Performance of Major Facilities Construction Projects and Progress on Prior GAO Recommendations

What GAO Found

Since GAO's March 2019 report on the status of its major facilities projects, the National Science Foundation (NSF) had no increases to the authorized total project costs or schedules for its four projects under construction (see figure):

- The Daniel K. Inouye Solar Telescope was on track to be completed within its \$344.1 million cost and June 2020 completion date.
- NSF was evaluating options for reducing the scope of the Vera C. Rubin Observatory (previously the Large Synoptic Survey Telescope), which it believed might be necessary to keep the project within its \$473 million cost and October 2022 completion date.
- Construction of a second Regional Class Research Vessel began in September 2019 and was anticipated to begin on a third and final vessel in March 2020 at a combined cost of \$365 million.
- The Antarctic Infrastructure Modernization for Science entered the construction phase in February 2019 at a cost of \$410.4 million.

Figure: National Science Foundation Major Facilities Projects in Construction



Sources: Claire Raftery/Association of Universities for Research in Astronomy, Inc./National Solar Observatory (top left); W O'Mullane/LSST Project/NSF/AURA (top right); Artist Rendering by Glosten (bottom left); Leidos (bottom right). | GAO-20-268

NSF fully implemented two of the six prior GAO recommendations including revising policies for estimating the costs of major facilities projects and revising the Vera C. Rubin Observatory's schedule to better meet best practices. NSF took steps to address but has not fully implemented the remaining four recommendations on the agency's oversight of major facilities.