



Testimony of

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Subcommittee on Research and Technology, and the
Subcommittee on Oversight

on

A Review of Recommendations for NSF Project Management Reform

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Madam Chairwoman, Mr. Chairman and Members of the Committee, thank you for this opportunity to discuss NSF's oversight of major research facility infrastructure projects and the NSF response to a recent National Academy of Public Administration report on this topic.

The National Science Foundation (NSF) supports fundamental research at the frontiers of knowledge across all fields of science and engineering. NSF serves the national interest as stated by NSF's mission to promote the progress of science; to advance the national health, prosperity and welfare; to secure the national defense; and for other purposes; and we do so through our investment in a portfolio of more than 42,000 active awards.

As part of our mission, NSF supports high-risk, potentially transformative projects that generate path-breaking discoveries and help to prepare the science and engineering workforce of the future. Among these high-risk projects are large-scale, multiuser scientific facilities. NSF supports a broad array of 28 major research facilities which individually cost between \$100M and \$500M each to construct. These facilities include geographically-distributed observatories, telescopes, colliders, detectors and mobile platforms such as research vessels and aircraft. NSF supports an even more extensive array of smaller, but equally sophisticated research infrastructure, many of which are increasingly cyber-enabled. In total, the operational cost of NSF's entire portfolio of research infrastructure cost \$1.2B per year to operate. As a result, NSF

takes oversight of this critical national investment seriously. NEON, the National Ecological Observatory Network, which has been a subject of great discussion lately, is only one facility within this portfolio that NSF needs to consider when looking at its policies and procedures related to proper oversight.

I would like to start by thanking the National Academy of Public Administration (NAPA) Panel (the Panel) for its rigorous review of NSF's use of Cooperative Agreements to support large-scale investments in science and technology. The Members of this Committee, the NSF Inspector General, and the experts at NAPA have all been exceptionally helpful to the Foundation in identifying areas where NSF can improve and make our oversight of critical science-support facilities even stronger.

The NAPA report emphasizes the need for heightened accountability and oversight, particularly with respect to large-scale research infrastructure, as NSF pursues its mission to support basic research at the frontiers of science and engineering. We appreciate the Panel's overall conclusion that Cooperative Agreements are the appropriate mechanism for the agency to use for the construction and operation of large research facilities. In using this funding mechanism, the Foundation is committed to improving the rigor and oversight of its processes and deploying appropriate levels of internal project, programmatic, and financial management expertise.

NSF is in general agreement with the Panel's recommendations. In order to respond to the report, the NSF Director has created an implementation team to address each of the recommendations. I will divide the NSF response into two broad topic areas identified in the NAPA report:

- Business Practices, and
- Oversight, Accountability, and Stewardship.

Business Practices

NSF will provide stronger requirements on cost estimating and adjudication of cost analysis findings, as recommended by the Panel, and to revamp the process of obligating and allocating contingency, based on the project's level of risk. The Panel's comparison with other agencies is very useful, and we will follow up with these agencies for more information detailing the process of partial withholding of contingency while also ensuring NSF's continued compliance with the Uniform Guidance.

With regard to management fee, the Foundation is continuing to implement the stringent policy we put into place last year, and we are currently considering the alternatives set forth in the Panel's report. As I have previously testified before this Committee, NSF acknowledges that some awardees should have shown better judgment in the use of their management fee – even if they were not in violation of any law or regulation governing the use of those funds. The Foundation has learned a number of lessons about management fees, and we designed the policy around those lessons learned.

Our new policy – which clarifies inappropriate uses of management fee, among other things – was established over a year ago, and subsequently updated after considering public comment. Recognizing the Panel recommends eliminating the use of management fee in future projects, we are in the process of doing two things: assessing how our updated policies have impacted existing cooperative agreements, and determining if there are other appropriate cost categories to cover some expenditures currently considered under management fee, per the Panel’s recommendation. While many of the Panel’s recommendations are implementable within a relatively short time frame, I would note that we believe this topic will likely take a more thorough analysis on the part of NSF than some of the other recommendations.

Oversight, Accountability, and Stewardship

The Panel’s holistic view of NSF’s oversight, accountability, and stewardship of large research facilities is welcomed by the Foundation. We are considering all of the recommendations on the roles and responsibilities of the National Science Board (NSB), the Major Research Equipment and Facilities Construction (MREFC) Panel, and the Office of the Director, as a single endeavor. Our existing oversight system was put into place over a decade ago, and the NAPA Panel recommendations give us clear guidance. We plan to enhance the role of independent expertise in project and financial management as well as the cross-agency sharing of best practices.

The NSB examined the Panel’s recommendations over the course of the past two days, and this was our first NSB meeting since the release of the report. We look forward to working together with the Board to strengthen our oversight, accountability, and stewardship, as recommended by the Panel.

Project management expertise and prior experience in leading large infrastructure projects are key requirements for success. NSF is committed to developing project management skills, experience, and training for both Foundation staff and MREFC project managers. In addition, we plan to expand our “community of practice” and a lessons-learned library, including implementation of those lessons-learned, for all MREFC projects.

I would like to clarify for the Committee that any changes NSF undertakes can and will apply to existing – not just new – cooperative agreements. One of the benefits of the agreement vehicle is that it allows flexibility to NSF, as well as the awardee, to move a project forward in a dynamic way. As the Foundation improves its processes, we can revise, as appropriate, existing agreements to strengthen oversight. As a result, any changes in policy are able to be effected in the near term.

In closing, I would like to reiterate how much NSF welcomes the NAPA report and its recommendations. The Panel’s attention to the details of cost surveillance, contingency, management fee, as well as the organizational structure and functions of the Foundation, provides a roadmap toward strengthened policies and practices for the NSF. This, in turn, will help us to provide our science and engineering communities with continued access to world-class research infrastructure. The Panel produced a high-quality, independent product on a very short timeline and for that the Foundation is grateful.

It is only with the strong support of the Inspector General, external experts like NAPA, and Congress that complete oversight of taxpayer resources can be ultimately achieved, and we are appreciative of those efforts. The Foundation looks forward to working with the Committee and with our Office of Inspector General as we implement these changes in order to best serve science and technology in the national interest.

Thank you again for the opportunity to testify. I would be pleased to answer your questions.