



## **NATIONAL SCIENCE FOUNDATION**

### **Agency Information Collection Activities: Comment Request;**

### **National Science Foundation Research Infrastructure Guide**

**AGENCY:** National Science Foundation.

**ACTION:** Notice and request for comments.

**SUMMARY:** In accordance with the requirement of the Paperwork Reduction Act of 1995, the National Science Foundation (NSF) is providing opportunity for public comment on revisions to the NSF Research Infrastructure Guide (RIG).

**DATES:** Written comments should be received by [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER], to be assured of consideration. Comments received after that date will be considered to the extent practicable.

**ADDRESSES:** Written comments regarding the information collection and requests for copies of the proposed information collection request should be addressed to Suzanne Plimpton, Reports Clearance Officer, National Science Foundation, 2415 Eisenhower Ave., Alexandria, VA 22314, or by e-mail to [splimpto@nsf.gov](mailto:splimpto@nsf.gov).

**FOR FURTHER INFORMATION CONTACT:** Suzanne Plimpton on (703) 292-7556 or send e-mail to [splimpto@nsf.gov](mailto:splimpto@nsf.gov). Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339, which is accessible 24 hours a day, 7 days a week, 365 days a year (including federal holidays).

### **SUPPLEMENTARY INFORMATION:**

*Title of Collection:* Research Infrastructure Guide.

*OMB Approval Number:* 3145-0239.

*Expiration Date of Approval:* June 30, 2025.

*Type of Request:* Intent to seek approval to extend with revision an information collection for three years.

*Proposed Project:* The revision to the *Research Infrastructure Guide (RIG)* aims to enhance guidance for the Construction Stage and implementation, focusing on planning and execution, and improve guidance for Operations Stage planning. It introduces contextual guidance for tailoring, scaling, and progressively elaborating planning efforts across all life cycle stages of Major Facilities and Mid-scale Research Infrastructure (RI). The updates provide more comprehensive project management guidance, including risk management, contingency estimating and management, and performance measurement. Additionally, the revision offers enhanced supplemental guidance on cyberinfrastructure, information assurance, partnerships, and Agile methodology for NSF projects. The draft version of the NSF RIG is available on the NSF website at: <https://new.nsf.gov/bfa/rio/resources>.

To facilitate review, a section called *List of Changes* with brief descriptions of the changes is provided in the RIG. NSF is particularly interested in public comment on the new content provided in Sections 2.9 Mid-scale Research Infrastructure Guidance, 3.5 Construction Stage and Implementation Planning, and 3.6 Operations Stage Planning.

The National Science Foundation Act of 1950 (Public Law 81-507) set forth NSF's mission and purpose:

“To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense. \* \* \*”

The Act authorized and directed NSF to initiate and support:

- Basic scientific research and research fundamental to the engineering process;
- Programs to strengthen scientific and engineering research potential;
- Science and engineering education programs at all levels and in all the various fields of science and engineering;
- Programs that provide a source of information for policy formulation; and
- Other activities to promote these ends.

Among Federal agencies, NSF is a leader in providing the academic community with advanced instrumentation needed to conduct state-of-the-art research and to educate the next generation of scientists, engineers, and technical workers. The knowledge generated by these tools sustains U.S. leadership in science and engineering to drive the U.S. economy and secure the future. A crucial part of NSF's responsibility is to ensure that the research and education communities have access to these resources and to provide the support needed to utilize them optimally and implement timely upgrades.

The scale of advanced instrumentation spans from small research tools to large, shared resources or facilities accessible to entire scientific communities. Demand for such instrumentation is rapidly growing, driven by the accelerating pace of discovery. The need for shared Research Infrastructure (RI) is especially high, and this demand is expected to increase further as more researchers and educators depend on these expansive facilities, instruments, and databases to achieve the next significant intellectual breakthroughs.

NSF defines RI as any combination of facilities, equipment, instrumentation, computational hardware and software, and the necessary human capital in support of the same. Historically, NSF has supported diverse types of RI,

including particle accelerators, detectors, radio and optical telescopes, remote research stations, research vessels and aircraft, high-performance computing, and geographically distributed observatories, as well as large-scale surveys and data sets.

NSF currently provides support for facility construction through the Major Research Equipment and Facility Construction (MREFC) account and the Research and Related Activities (R&RA) account. The MREFC account, established in FY1995, is an agency-wide capital account that provides funding for the Construction Stage of Major Facilities with a Total Project Cost (TPC) of \$100M or greater for construction, and Mid-scale RI with a TPC of \$20-\$100M.

The growth and diversification of Major Facility and Mid-scale RI require that NSF remain attentive to the ever-changing issues and challenges inherent in their planning, construction, operation, management, and oversight. Most importantly, dedicated, competent NSF and Awardee staff are needed to manage and oversee these RI, giving the attention and oversight that good practice dictates and that proper accountability to taxpayers and Congress demands. To this end, there is also a need for consistent, documented requirements and procedures to be understood and used by NSF program managers and awardees for all such RI.

*Use of the Information:* Research Infrastructure (RI) is a crucial component of the science and engineering enterprise, and supporting it is one of NSF's primary responsibilities. NSF provides awards to external entities—primarily universities, university consortia, or non-profit organizations—to construct, manage, and operate these facilities. These awards are typically made through cooperative agreements. While NSF does not directly build or operate the facilities it funds, it

remains responsible for overseeing their development, management, and overall performance.

The *Research Infrastructure Guide (RIG)* is intended to:

- Articulate NSF's oversight policies, processes, and procedures at each life cycle stage for Major Facilities and Mid-scale RI.
- Provide guidance to organizations for proposal development and effective management of funded activities, following established program and project management best practices.

This version of the *RIG* provides enhanced guidance for planning across all life cycle stages, including Development, Design, Construction and implementation, Operations, and Disposition. It offers detailed instructions on tailoring, appropriately scaling, and progressively elaborating plans to align with the scale and complexity of the RI. Additionally, key project management elements are improved to ensure stronger oversight.

The *RIG* does not replace the formal procedures outlined in the *Proposal & Award Policies and Procedures Guide (PAPPG)*, which are required for all NSF awards. Instead, it supplements the *PAPPG* by providing specific guidance on NSF policies and procedures for the planning, management, and oversight of Major Facilities and Mid-scale RI. All RI require merit and technical review, as well as approval of specific deliverables. The level of review and approval for these projects differs significantly from standard grants, as does the degree of oversight necessary to ensure proper accountability for federal funds. The *RIG*'s requirements, recommended procedures, and best practices apply to any RI substantial enough to require ongoing, close interaction with NSF and the National Science Board.

NSF will update the *RIG* periodically to reflect requirements, policies, and/or procedures changes. Awardees are expected to monitor and adopt the requirements and best practices included in the *RIG*, which aim to improve management and oversight of Major Facility and Mid-scale RIs and enable the most efficient and cost-effective delivery of tools to the research and education communities.

Submitting proposals and subsequent documentation related to the development, design, construction or implementation, and operations of a Major Facility or Mid-scale RI to NSF is part of the information collected that NSF uses to fulfill its responsibility to support merit-based research and education projects in all the scientific and engineering disciplines. NSF is also committed to providing oversight on RI, which they must balance against monitoring its information collection to identify and address any excessive reporting burdens.

NSF has approximately 25 Major Facilities in various stages of Development, Design, Construction, Operations, and Disposition. Major Facilities undergoing a significant upgrade may be classified in both design or construction and operations at the same time. Two to four new construction awards are made approximately every five years based on science community RI needs and availability of funding. Among the 25 Major Facilities, there are approximately seven (7) facilities annually that are either in Design or Construction Stages. These stages require the highest level of reporting and management documentation per the *RIG*. Currently, there are approximately 27 Mid-scale Research Infrastructure in the Track1 Program and nine in the Track 2 Program.

*Burden on the Public:* NSF estimates that approximately five Full Time Equivalents (FTEs) are necessary for each Major Facility in design or construction to respond to NSF performance and financial reporting and project

management documentation requirements on an annual basis; or 10,400 hours per year. NSF estimates approximately one and half (1.5) FTE for a Major Facility in operations to respond to performance and financial reporting on an annual basis; or 3,120 hours per year. For Mid-scale RI, NSF estimates approximately one (1) FTE is necessary for each Mid-Scale RI to respond to NSF project management documentation requirements on an annual basis; or 2,080 hours per year. With seven (7) Major Facilities in design or construction and twenty-one (20) in operations and four (4) Mid-scale RI, this equates to roughly 150,000 public burden hours annually.

*Comments:* In addition to the previously mentioned types of comments, feedback is also invited on the following:

- a) Whether the proposed collection of information is necessary for the proper performance of the functions of the Agency, including whether the information shall have practical utility;
- b) the accuracy of the Agency's estimate of the burden of the proposed collection of information;
- c) ways to enhance the quality, utility, and clarity of the information on respondents, including through the use of automated collection techniques or other forms of information technology; and
- d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

After obtaining and considering public comment, NSF will prepare the submission requesting OMB clearance of this collection for no longer than 3 years.

Dated: January 3, 2025.

**Suzanne H. Plimpton,**

*Reports Clearance Officer,*

*National Science Foundation.*

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