



## **NATIONAL SCIENCE FOUNDATION**

### **Agency Information Collection Activities: Comment Request; National Science Foundation Major Facilities 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 Major Facilities Guide (MFG).

**DATES:** Written comments should be received by **[INSERT DATE 60 DAYS AFTER DATE OF 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., Rm. W 18253, 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:* Major Facilities Guide.

*OMB Approval Number:* 3145-0239.

*Expiration Date of Approval:* September 30, 2022.

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

*Proposed Project:* The primary purpose of this revision is to provide expectations for construction schedules for alignment with good practices, minimum competencies for project personnel, and guidance on the content of Segregation of Funding Plans and how to scale earned value management systems (EVMS). The draft version of the NSF MFG is available on the NSF website at: [http://www.nsf.gov/bfa/lfo/lfo\\_documents.jsp](http://www.nsf.gov/bfa/lfo/lfo_documents.jsp) .

To facilitate review, a Change Log with brief comment explanations of the changes is provided in the guide. NSF is particularly interested in public comment on the new content provided in Section 4.3 Schedule Development, Estimating, and Analysis and in Section 4.6.6 Project Personnel and Competencies.

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 (S&E) to drive the U.S. economy and secure the future. 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 ranges from small research instruments to shared resources or facilities that can be used by entire communities. The demand for such instrumentation is very high, and is growing rapidly, along with the pace of discovery. For major facilities and shared infrastructure, the need is particularly high. This trend is expected to accelerate in the future as increasing numbers of researchers and educators rely on such large facilities, instruments, and databases to provide the reach to make the next intellectual leaps.

NSF currently provides support for facility construction from two accounts: the Major Research Equipment and Facility Construction (MREFC) account, and the Research and Related Activities (R&RA) account. The MREFC account, established in FY 1995, is an agency-wide capital account which provides funding for the construction stage of major facilities, roughly \$100M or greater, and mid-scale projects in the range of approximately \$20-\$100M.

Facilities are defined as shared-use infrastructure, instrumentation and equipment that are accessible to a broad community of researchers and/or educators. Facilities may be centralized or may consist of distributed installations. They may incorporate large-scale networking or computational infrastructure, multi-user instruments or networks of such instruments, or other infrastructure, instrumentation and equipment having a major impact on a broad segment of a scientific or engineering discipline. Historically, awards have been made for such diverse projects as accelerators,

telescopes, research vessels and aircraft, and geographically distributed but networked sensors and instrumentation.

The growth and diversification of large facility projects 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 projects; 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 large projects.

*Use of the Information:* Facilities are an essential part of the science and engineering enterprise, and supporting them is one major responsibility of the National Science Foundation (NSF). NSF makes awards to external entities – primarily universities, consortia of universities or non-profit organizations – to undertake construction, management, and operation of facilities. Such awards frequently take the form of cooperative agreements. NSF does not directly construct or operate the facilities it supports. However, NSF retains responsibility for overseeing their development, management, and successful performance. The Major Facilities Guide is intended to:

- Provide guidance for NSF staff and awardees to carry out effective project planning, management and oversight of major facilities while considering the varying requirements of a diverse portfolio;
- Clearly state the policies, processes, and procedures pertinent at each stage of a facility's life cycle from development through design, construction, operations, and divestment; and
- Document and disseminate “good practices” identified over time so that NSF and awardees can carry out their responsibilities more effectively.

This version of the Major Facilities Guide adds sections for development of construction schedules and minimum competencies for project personnel; updates sections related to legislation and NSF policy on research infrastructure, content of segregation funding plans, and earned value management; and clarifies requirements to transition through the design phases, construction monthly reporting, and property management terminology. The Guide does not replace existing formal procedures required for all NSF awards, which are described in the, *Proposal & Award Policies and Procedures Guide (PAPPG)*. Instead, it draws upon and supplements it for the purpose of providing detailed guidance regarding NSF policy and procedures related to the planning, management, and oversight of Major Facilities. All facilities projects require merit and technical review, as well as approval of certain deliverables. The level of review and approval varies substantially from standard grants, as does the level of oversight needed to ensure appropriate and proper accountability for federal funds. The requirements, recommended procedures, and best practices presented in the Guide apply to any facility significant enough to require close and substantial interaction with the Foundation and the National Science Board.

This Guide will be updated periodically to reflect changes in requirements, policies and/or procedures. Award Recipients are expected to monitor and adopt the requirements and best practices included in the Guide which are aimed at improving management and oversight of major facilities projects and at enabling the most efficient and cost-effective delivery of tools to the research and education communities.

The submission of proposals and subsequent project documentation to the Foundation related to the development, construction and operations of Major Facilities is part of the collection of information. This information is used to help NSF fulfill this responsibility in supporting merit-based research and education projects in all the scientific and engineering disciplines. The Foundation also has a continuing

commitment to provide oversight on facilities development and construction which must be balanced against monitoring its information collection so as to identify and address any excessive reporting burdens.

NSF has approximately twenty-four (24) Major Facilities in various stages of development, design, construction, operations, and divestment. Facilities undergoing a major upgrade may be classified in both design or construction and operations at the same time. Two to four (2 to 4) new construction awards are made approximately every five (5) years based on science community infrastructure needs and availability of funding. Among the twenty-four major facilities, there are approximately seven (7) facilities annually that are either in design or construction. These stages require the highest level of reporting and management documentation per the *Major Facilities Guide*. NSF estimates there will be four (4) mid-scale projects in progress at a given time.

*Burden to the Public:* The Foundation estimates that approximately five (5) Full Time Equivalent (FTE's) are necessary for each major facility project 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. The Foundation estimates approximately one and half (1.5) FTE for a major facility in operations to respond to NSF performance and financial reporting on an annual basis; or 3,120 hours per year. For mid-scale projects, the Foundation estimates approximately one (1) Full Time Equivalent (FTE's) is necessary for each mid-scale project 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 (21) in operations and four (4) mid-scale projects, this equates to roughly 150,000 public burden hours annually.

*Comments:* In addition to the type of comments identified above, comments are also invited on: (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 27, 2021.

**Suzanne H. Plimpton,**

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*National Science Foundation.*

[FR Doc. 2021-02140 Filed: 2/1/2021 8:45 am; Publication Date: 2/2/2021]