



NATIONAL SCIENCE FOUNDATION

Notice of Intent to Seek Approval to Establish an Information Collection

AGENCY: National Science Foundation.

ACTION: Notice and request for comments.

SUMMARY: Under the Paperwork Reduction Act of 1995, and as part of its continuing effort to reduce paperwork and respondent burden, the Evaluation and Assessment Capability (EAC), National Science Foundation (NSF) Office of Integrative Activities (OIA) is inviting the general public or other Federal agencies to comment on this proposed information collection.

DATES: Written comments on this notice must be received by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**] to be assured consideration. Comments received after that date will be considered to the extent practicable. Send comments to the address below.

FOR FURTHER INFORMATION CONTACT: Suzanne H. Plimpton, Reports Clearance Officer, National Science Foundation, 2415 Eisenhower Avenue, Suite E7400, Alexandria, Virginia 22314; telephone (703) 292-7556; or send email to 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:

Comments: Comments are invited on: (1) whether the proposed collection of information is necessary for the proper performance of the functions of the Foundation, including whether the information will have practical utility; (2) the

accuracy of the Foundation's estimate of the burden of the proposed collection of information; (3) ways to enhance the quality, utility, and clarity of the information to be collected; and (4) ways to minimize the burden of collecting the information on the respondents, including through the use of automated collection techniques or other forms of information technology.

Title of Collection: Generic Clearance for the Evaluation of the National Science Foundation's (NSF) Broader Impacts Review Criterion.

OMB Number: 3145-NEW.

Expiration Date of Approval: Not applicable.

Type of Request: New information collection.

Description:

NSF is conducting an evaluation to assess (1) how NSF's Broader Impacts review criterion is applied across the Foundation and (2) its effectiveness in meeting the goals established in section 526 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010 (42 U.S.C. 1862p-14) (America COMPETES Reauthorization Act of 2010). This evaluation is congressionally directed in section 10341 of the Creating Helpful Incentives to Produce Semiconductors [CHIPS] for America Fund Act 2022. As part of the evaluation, NSF is conducting a literature review, document analysis, extant data analysis, interviews with NSF staff, and focus groups with NSF principal investigators (PIs) and reviewers. NSF will map findings from the evaluation activities to current NSF policies and practices to identify strategies for improving how NSF applies the review criterion.

The subject of this request is related to the planned focus groups with PIs and reviewers. The focus groups will answer the following research questions (RQs):

- RQ1. In what ways do the interpretations of the Broader Impacts review criterion among PIs and reviewers vary, and what factors might contribute to these variations?
- RQ2. How do external reviewers assess the Broader Impact review criterion?
- RQ3. In what ways do PIs and reviewers perceive that variations in interpretation and assessment can advance or hinder the merit review of proposals?

Findings from the focus groups described in this request will be used to inform interpretation of other evaluation activities within the larger project (including informing interpretation of interviews with NSF staff, document review analyses, and interpretation of extant data analysis of review analyses). For example, we anticipate that participants in these focus groups may raise issues around their understanding and interpretation of Broader Impacts, which can be compared to perceptions that NSF staff report during interviews.

Background:

NSF sets forth an ambitious vision for the United States: a nation that leads the world in science and engineering research and innovation, to the benefit of all, without barriers to participation. Toward this end, NSF promotes the progress of science by investing in research and capacity-building activities that expand knowledge in science, engineering, and education. In fiscal year (FY) 2022, NSF evaluated almost 40,000 proposals for research and education activities, making nearly 11,000 new awards totaling more than \$8.5 billion.

At the cornerstone of NSF's mission and its investments is its merit review process. NSF program directors with technical and programmatic expertise lead this process, with support from external experts who help evaluate submitted proposals for two main criteria: (1) Intellectual Merit—the potential to advance knowledge; and (2) Broader Impacts—the potential to contribute to society and achieve specific, desired societal outcomes. With these two criteria, NSF has established a commitment to projects that provide tangible benefits to society beyond advancing knowledge.

It is critically important that NSF implement its merit review process in a way that is fair, thorough, competitive, and transparent, and that those internal and external to NSF recognize the process as such. However, as NSF noted, PIs and reviewers might lack clarity about the Broader Impacts criterion, despite NSF's efforts to provide additional guidance. NSF has also noted a lack of consistency in how NSF implements the criterion across directorates, divisions, and programs. Specific challenges related to the understanding and application of Broader Impacts include a lack of consensus on how to define Broader Impacts, and a disconnect between the Broader Impacts requirements stated in the NSF Proposal & Award Policies & Procedures Guide and how panelists review these activities (National Alliance for Broader Impacts 2018). The purpose of this work, then, is to “assess how the Broader Impact review criterion is applied across the Foundation and make recommendations for improving the effectiveness for meeting the goals established in section 526 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010 (42 U.S.C. 1862p-14)” (America COMPETES Reauthorization Act of 2010). This evaluation is congressionally directed in section 10341 of the Creating

Helpful Incentives to Produce Semiconductors [CHIPS] for America Fund Act 2022.

Methodology:

Focus groups will be conducted with two types of respondents: PIs and reviewers.

The evaluation will include three PI focus groups of up to seven people each. Participants in these groups will be PIs who submitted a proposal within the last five years. The study team will select participants via a stratified random sample by NSF directorate, institutional characteristics (such as Carnegie classification, MSI status, and locale), and participant characteristics (such as race/ ethnicity, gender, years since terminal degree, and new investigator status). PIs have firsthand experience addressing the Broader Impacts review criterion in their proposals. Among this group, key insights include the following:

1. Questions they have about how to address the Broader Impacts review criterion in their research and proposals.
2. Strategies they have employed as a PI in addressing the Broader Impacts review criterion in their research and proposals.
3. Resources or supports received from their respective institutions for developing well-thought-out proposals that address the Broader Impacts review criterion.

Reviewer focus groups will consist of three focus groups of up to seven people each. Participants in these groups will be people who served on a review panel within the last five years. The study team will select participants via a

stratified random sample by directorate and participant characteristics (such as how long they have been reviewing NSF proposals). Reviewers have firsthand knowledge about applying the Broader Impacts review criterion. Among this group, key insights include the following:

1. Interpreting and applying the criterion as a reviewer (and compared with as a PI).
2. Reviewer training and guidance.

Affected Public: NSF reviewers and PIs

Average Expected Annual Number of Activities:

Collection method	Estimated lower bound (number of responses)	Estimated upper bound (number of responses)	Estimated average response time (min)	Approximate lower bound response burden (hours)	Approximate upper bound response burden (hours)
Focus groups	4*6=24	7*6=42	90 minutes	(24*90)/60=36	(42*90)/60=72

Respondents: Lower-bound estimate of 24 individuals and upper-bound estimate of 48 individuals

Average Minutes per Response: 90

Burden Hours: Lower- and upper-bound estimates of approximately 36 and 72 hours

Dated: November 16, 2023.

Suzanne H. Plimpton,

Reports Clearance Officer,

National Science Foundation.

