

Chapter III: NSF Proposal Processing and Review

Proposals received by NSF are assigned to the appropriate NSF program and are assessed to ensure that they meet NSF compliance requirements. All compliant proposals are then carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included as GPG Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/merit_review/.

Proposal review is one step in the NSF program planning and implementation process. Embedded in this process are core strategies that are fundamental to the fulfillment of NSF's mission. More information about NSF's mission and strategies can be found in *Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018*. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing 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." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These broader impacts may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the

funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

2. Merit Review Criteria

All NSF proposals are evaluated through use of two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. Both criteria are to be given full consideration during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (GPG Chapter II.C.2.d.(i) contains additional information for use by proposers in development of the Project Description section of the proposal.) Reviewers are strongly encouraged to review the criteria, including GPG Chapter II.C.2.d.(i), prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to:
 - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
 - b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

B. Selection of Reviewers

The NSF guidelines for the selection of reviewers are designed to ensure selection of experts who can give program officers the proper information needed to make a recommendation in accordance with the NSB-approved criteria for selection of projects. Optimally, reviewers should have:

1. Special knowledge of the science and engineering subfields involved in the proposals to be reviewed to evaluate competence, intellectual merit, and utility of the proposed activity. Within reasonable limits, reviewers' fields of specialty should be complementary within a reviewer group.
2. Broader or more generalized knowledge of the science and engineering subfields involved in the proposals to be reviewed to evaluate the broader impacts of the proposed activity. Reviewers with broad expertise are required for proposals involving substantial size or complexity, broad disciplinary or multidisciplinary content, or significant national or international implications.
3. Broad knowledge of the infrastructure of the science and engineering enterprise, and its educational activities, to evaluate contributions to societal goals, scientific and engineering personnel, and distribution of resources to organizations and geographical areas.
4. To the extent possible, diverse representation within the review group. The goal is to achieve a balance among various characteristics. Important factors to consider include: type of organization represented, reviewer diversity, age distribution and geographic balance.

C. Proposal File Updates

It is the responsibility of the proposing organization to thoroughly review each proposal prior to submission. On occasion, however, a problem is identified with a portion of the proposal after the proposal has been submitted electronically to NSF.

The FastLane Proposal File Update Module allows the organization to request the replacement of files or revision of other Proposal Attributes, associated with a previously submitted proposal. (Note: The FastLane Proposal File Update module must not be used for submission of revised budgets. All budgetary revisions must be submitted through use of the FastLane Revised Proposal Budget Module. See Section D. below for further information.) A request for a proposal file update must be submitted by an individual who is authorized to submit proposals on behalf of the organization, and electronically signed by the Authorized Organizational Representative (AOR). An update request must contain a justification that addresses:

1. why the changes or file replacements are being requested; and
2. any differences between the original and proposed replacement files.

A request for a proposal file update automatically will be accepted if submitted **prior to**:

- the deadline date;
- initiation of external peer review in cases when a target date is utilized;³⁹ and
- initiation of external peer review in the case of an unsolicited proposal.

A request for a proposal file update **after** the timeframes specified above will require acceptance by the cognizant NSF Program Officer. Such requests shall be submitted only to correct a technical problem with the proposal (i.e., formatting or print problems). Changes in the content of the proposal should not be requested after the timeframes specified above. When a request is accepted, the proposed files or revisions to proposal attributes will immediately replace the existing files and become part of the official proposal.

PIs can access the Proposal File Update Module via the "Proposal Functions" section of FastLane. Authorized individuals in the organization's Sponsored Projects Office (or equivalent) can initiate or review requests for proposal file updates using the "Submit Proposals/Supplements/File Updates/Withdrawals" Module via the FastLane "Research Administration Functions."⁴⁰

³⁹The status of a proposal may be found via the "Proposal Functions" section of FastLane.

⁴⁰Detailed instructions on submitting proposer-initiated proposal file updates are available on the FastLane website at <https://www.fastlane.nsf.gov/documents/pfu/pfu.jsp>.

NSF will consider only one request for a proposal file update per proposal at a time. It is anticipated that it will be a rare occurrence for more than one file update request to be submitted for a proposal.

D. Revisions to Proposals Made During the Review Process

In the event of a significant development (e.g., research findings, changed circumstances, unavailability of PI or other senior personnel, etc.) that might materially affect the outcome of the review of a pending proposal, the proposer must contact the cognizant NSF Program Officer to discuss the issue. Submitting additional information must not be used as a means of circumventing page limitations or stated deadlines.

Before recommending whether or not NSF should support a particular project, the cognizant NSF Program Officer may, subject to certain constraints outlined below, engage in discussions with the proposing PIs.

Negotiating budgets generally involves discussing a lower or higher amount of total support for the proposed project. The cognizant NSF Program Officer may suggest reducing or eliminating costs for specific budget items that are clearly unnecessary or unreasonable for the activities to be undertaken, especially when the review process supports such changes; however, this would generally not include faculty salaries, salary rates, fringe benefits, or tuition. Note: indirect cost rates are not subject to negotiation. The NSF Program Officer may discuss with PIs the “bottom line” award amount, i.e., the total NSF funding that will be recommended for a project. NSF Program Officers may not renegotiate cost sharing or other organizational commitments.

When such discussions result in a budget reduction of 10% or more from the amount originally proposed, a corresponding reduction should be made in the scope of the project. Proposers must use the FastLane Revised Proposal Budget Module to submit this information.⁴¹ A revised proposal budget also must include a Budget Impact Statement that describes the impact of the budget reduction on the scope of the project.

Revised proposal budgets must be electronically signed by the AOR.

E. Funding Recommendation

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. Normally, final programmatic approval is at the Division/Office level. Because of the large volume of proposals, this review and consideration process may take up to six months. Large or particularly complex proposals may require additional review and processing time.

Should a proposal be recommended for award, the PI may be contacted by the NSF Program Officer for assistance in preparation of the public award abstract and its title. An NSF award abstract, with its title, is an NSF document that describes the project and justifies the expenditure of Federal funds.

Note that a recommendation for an award by an NSF Program Officer does not constitute approval or obligation of Federal funds. Proposers are cautioned that only an appointed NSF Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF or the Government should be inferred from technical or budgetary discussions with an NSF Program Officer. A PI or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at its own risk.

F. NSF’s Risk Management Framework and the Decision to Award or Decline Proposals

If the program recommendation is for an award and final Division/Office or other programmatic approval is obtained, then the recommendation goes to the Division of Grants and Agreements (DGA) or the Division of Acquisition and Cooperative Support (DACs) for review of business, financial and policy implications. After the completion of this review, a final decision will be made to fund or decline the proposal.

⁴¹ Note: All preaward budgetary revisions must be submitted through use of the Revised Budget Module in Fastlane.

1. NSF Risk Management Framework. Consistent with 2 CFR § 200.205, NSF's risk-based framework evaluates the risks posed by proposers prior to issuance of an NSF award. This framework includes, but is not limited to, the following:

- conducting pre-award financial and administrative reviews for all proposers recommended for award that have not received NSF funding in the last five years, with particular focus on proposers whose cumulative NSF funding would amount to \$200,000 or more;
- conducting pre-award financial and administrative reviews for all proposers recommended for Phase II funding under the Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) program;
- considering the proposer's record of how it has managed past and current Federal awards, and leveraging NSF systems to identify any ongoing issues that need to be considered before proceeding with future awards;
- considering the status of corrective actions necessary to address findings or concerns noted in audits, desk reviews, site visits, or other monitoring activities of the proposer's past and current Federal awards; and
- ensuring that NSF conducts review of information available through any OMB-designated repositories and that no awards are made to proposers that are currently suspended or debarred or otherwise ineligible for participation in Federal programs or activities.

DGA and DACS generally make the decision to award or decline proposals within 30 days after the program Division/Office makes its recommendation. Proposals from organizations that have not received an NSF award within the preceding five years, or involving special situations (such as coordination with another Federal agency or a private funding source), cooperative agreements, or unusual arrangements may require additional review and processing time.

2. Process to Appeal NSF's Decision to Decline a Proposal for Financial or Administrative Reasons

a. Background

A proposer who has been declined for an NSF award for reasons related to NSF's pre-award financial and administrative reviews will be afforded the opportunity to discuss the decline decision with the cognizant NSF Grants and Agreements Officer or Branch Chief in DGA or DACS. If, after obtaining further clarification from the cognizant NSF Grants and Agreements Officer or Branch Chief in DGA or DACS, the proposer believes that NSF made a substantive or procedural error in arriving at its decision to decline an award, the proposer may submit a request for review to the cognizant Division Director of DGA or DACS. The decision made by the cognizant Division Director of DGA or DACS is final.

Award of NSF assistance is discretionary. A formal hearing, therefore, is not provided.

b. Applicability

GPG Chapter III.F.2.c contains the process by which proposers may appeal a DGA or DACS Branch Chief's decision to decline an NSF award arising from NSF's pre-award financial and administrative reviews. This process does not apply to decisions to return or decline a proposal for any other reason.

Proposals declined for administrative or financial reasons are not eligible for reconsideration under GPG Chapter IV.D.

c. Procedures

1. Proposers who are declined for an NSF award for financial or administrative reasons will be identified as such in the declination notice. A proposer who disagrees with NSF's decision should first contact the cognizant NSF Grants and Agreements Officer or Branch Chief in DGA or DACS, who will afford the proposer an informal opportunity to obtain further clarification.

2. If dissatisfied with the explanation provided by the cognizant NSF Grants and Agreements Officer or Branch Chief in DGA or DACS, the proposing organization's Authorized Organizational Representative may submit a request for review to the cognizant Division Director of DGA or DACS. The letter must be addressed to the Division Director, Division of Grants and Agreements (DGA), or the Division Director, Division of Acquisition and Cooperative Support (DACS) as appropriate, and must be received by the Foundation within 30 days after the date of the declination notice. The time for filing a request for review is strictly enforced and no extensions for the purpose of preparing it will be granted.

3. The request for review need not follow any prescribed format. However, it must contain a full statement of the proposer's position with respect to the disputed matter, as well as the facts and reasons supporting the proposer's position that the declination was unwarranted. The request may address any errors made in the financial and administrative review process. NSF will not consider any new information that would not have been available at the time the decision to decline was made. Therefore, new information presented in relation to the proposer's financial stability or the quality of its management systems will not be considered.

4. The Division Director, DGA or DACS, will review or designate one or more individuals to review the matter. In no case will the review be undertaken by any individual involved with the decline decision. The reviewing official(s) may request additional information from the proposer, but only information that would have been available at the time the decision to decline was made will be considered.

5. The designated reviewing official(s) will, within 30 days of NSF's receipt of the request for review, forward a report to the Division Director, DGA or DACS or his/her designee for a final written decision for the agency. The Division Director, DGA or DACS or his/her designee will communicate the decision in writing to the proposer, normally within 15 days of receipt of the report, unless otherwise specified by NSF. The decision made by the Division Director, DGA or DACS, is final.

G. Review Information Provided to PI

When a decision has been made (whether an award or a declination), the following information is released electronically to the PI:

- description of the context in which the proposal was reviewed;
- copies of all reviews used in the decision (with any reviewer-identifying information redacted);
- copy of panel summary, if the proposal was reviewed by a panel at any point in the process; and/or
- site-visit reports, if applicable.

In addition, if not otherwise provided in the panel summary, the PI is provided an explanation (written or telephoned) of the basis for the declination. A PI also may request and obtain any other releasable material in NSF's file on his/her proposal. Everything in the file, except information that identifies either reviewers or other pending or declined proposals is usually releasable to the PI.

Reviews are made available directly to the PI, to provide feedback for the purpose of improving proposed research and research methods, and to assist in preparation of future proposals. They are not intended for any other purpose.

H. Release of Grantee Proposal Information

A proposal that results in an NSF award will be available to the public on request, except for privileged information or material that is personal, proprietary or otherwise exempt from disclosure under law. Appropriate labeling in the proposal aids identification of what may be specifically exempt. (See GPG Chapter I.D.3) Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act. Without assuming any liability for inadvertent disclosure, NSF will seek to limit disclosure of

such information to its employees and to outside reviewers when necessary for merit review of the proposal, or as otherwise authorized by law.

Portions of proposals resulting in grants that contain descriptions of inventions in which either the Government or the grantee owns a right, title, or interest (including a non-exclusive license) will not normally be made available to the public until a reasonable time has been allowed for filing patent applications. NSF will notify the grantee of receipt of requests for copies of funded proposals so the grantee may advise NSF of such inventions described, or other confidential, commercial or proprietary information contained in the proposal.